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MASSACHUSETTS HIGHWAY COMMISSION

YEAR ENDING NOVEMBER 30

1909

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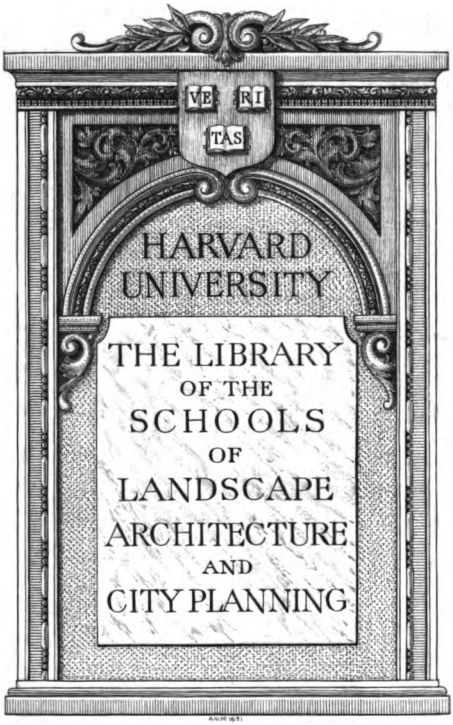

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"JACOB'S LADDER."

OVERCOMING THE GRADE — STATE HIGHWAY AVOIDING MOREY HILL, BECKET

Maximum Grades: Old Road, 19 Per Cent.; New Road, 6.45 Per Cent.

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Public Document No. 54

SEVENTEENTH ANNUAL REPORT

OF THE

MASSACHUSETTS HIGHWAY COMMISSION,

FOR THE FISCAL YEAR ENDING NOVEMBER 30, 1909.

PART I. — STATE HIGHWAYS AND MOTOR VEHICLES.
PART II. — SUPERVISION OF TELEPHONE AND TELEGRAPH COMPANIES.

JANUARY, 1910.

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The Commonwealth of Massachusetts.

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled.

The undersigned commissioners, appointed under the provisions of chapter 476 of the Acts of 1893 and of chapter 474 of the Acts of 1900, herewith submit, in Part I., their seventeenth annual report, in accordance with the provisions of chapter 47 of the Revised Laws, and, in Part II., their fourth annual report relative to their supervision of telegraph and telephone companies, under the provisions of chapter 433 of the Acts of 1906; both reports being for the fiscal year ending Nov. 30, 1909.

HAROLD PARKER.
WM. D. SOHIER.
F. D. KEMP.

Boston, Mass., Jan. 4, 1910.

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PART I.

ANNUAL REPORT OF THE MASSACHUSETTS HIGHWAY COMMISSION.

During the year ending Nov. 30, 1909, the commission laid out 36.53 miles of State roads. Of these, 30.03 miles have been completed and 6.50 miles are in process of construction. The total length of State highways at the end of the fiscal year, Nov. 30, 1909, was 784.63 miles.

Various cities, towns and individuals throughout the Commonwealth have contributed toward the building of State highways. In some cases the towns have built the highways, which have afterward been taken over by the State.

The total amount expended by the commission for the construction of State highways, including the planting of trees, etc., is $7,157,945.96.

The number of petitions for such roads received annually grows less each year, because the main lines of thoroughfare have already been petitioned for, 826 petitions being on file, covering a total of 2,003.16 miles of road.

The sum of $50,215.12 has been spent in so-called "small towns" for the improvement of town roads. The expenditure of this money, together with such amounts as have been contributed by the towns themselves, has resulted in the improvement of about 30 miles of town ways. These roads remain under the control of the municipalities.

The roads thus improved under the direction of the commission, and largely out of the funds of the Commonwealth,

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aggregate 193.57 miles; the total amount expended (including engineering charges) being $336,917.92.

It appears to the commission that the State highway system, indicated by the roads already built and petitioned for, has, in the main, met with public approval.

The road which has been built to avoid the hitherto almost impassable Jacob's Ladder in the town of Becket has been completed, at an expenditure within the appropriation, and, including the work done under the appropriation of 1909 in the improvement of the road between Morey Hill and East Lee, a very serviceable highway now exists all the way from Pittsfield to Chester. There still remain a few miles of road between Chester and Huntington to be improved, and then the east and west route between New York State and Boston will be in excellent condition.

Much work has been done on the road from Boston to the New Hampshire line, via Newburyport. During the past year the sections between Lynn and Salem, in Hamilton, Ipswich and Rowley, have been under construction. The sections in Hamilton, the northern part of Ipswich, the southern part of Rowley, and from Salisbury north to the New Hampshire line still remain in poor condition.

On Cape Cod in the town of Eastham there are 3 miles of road in process of construction by the sand and oil method, 2 miles of which are actually under contract. It is believed that this kind of construction will give a practical and useful road to the permanent residents of the Cape, and that the route to Provincetown will soon be one of the most pleasing tours in Massachusetts for automobiles.

A section of State road between Fitchburg and Greenfield has been completed in Erving and Montague.

The New Hampshire State road from Nashua has been united with the Massachusetts system along the Merrimac River in Tyngsborough.

The Springfield and Worcester road will be nearly completed when the bridge over the Quaboag River in Palmer, now under construction, is finished.

Some progress has been made during the year on the north-

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and-south road along the Connecticut River, but many miles of inferior road still exist on this line.

The roads leading south from Boston have been improved by gradually filling in the uncompleted sections which are necessary to develop the system.

The "small town" work has progressed in a manner satisfactory to the commission. The $25,000 allotment, made under authority of the Legislature of 1908 for small towns of less than $1,000,000 valuation which contribute toward the cost of the improvements, has been practically exhausted. Many towns have appropriated an amount equal to the sum allotted by the commission. There appears to be no question as to the utility of this method of improving town roads. It seems to have met with public approval, especially in those towns which are remote from the main lines of traffic.

Character of Construction.

The constantly increasing use of automobiles has confirmed the commission in the views that it has expressed in former reports, viz., the necessity for the adoption of a binder which will prevent the disintegration of the roads by the rubber tires of the swiftly moving motor vehicles. With this in view, the commission has continued the experiments which were begun last year, but on a very much larger scale. During the past year the commission constructed about 20 miles of plain macadam road and about 4½ miles of macadam with an oil and sand coating; 1¼ miles of road were grouted with a tar product, and on 2¾ miles the upper course of stone was coated with tar.

The commission also built about 2¾ miles of ordinary gravel road, and let contracts for between 6 and 7 miles of road to be constructed of a mixture of asphaltic oil and sand from 3 to 4 inches in thickness. These roads are now in process of construction, one of them being practically completed.

Bridges and Culverts.

In the construction of bridges and culverts the commission has used reinforced concrete, as has been its custom for

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many years, both on account of the economy of construction and because of its durability.

Chapter 531 of the Acts of the year 1906 directed the commission to report to the Legislature when public safety and convenience required the reconstruction of the bridge across the Parker River in the town of Newbury, and on Feb. 23, 1909, the commission, in a report to the Legislature, recommended that a new bridge be constructed during the year 1909. The design of this bridge contemplated the erection of three concrete arches, one of a span of 110 feet and two of spans of 95 feet each. The waterway was also increased by this plan.

The Legislature of 1909 appropriated $20,000 for the repair of the old bridge over Parker River in the town of Newbury, and for a study of the bridge question in general. Under the provisions of this resolve the commission, with the advice of Messrs. J. R. Worcester & Co., consulting engineers, determined upon the best way to repair the present bridge. The method adopted was to strengthen the old piers and abutments, top out the old walls with concrete so as to bring the roadway and walls to a uniform grade, and replace the old wooden trusses with steel pony trusses.

The work was advertised and let to the lowest bidder, the New England Contracting Company of Worcester, in September, 1909, and the repairs have been in progress since that time. The bridge will probably be finished during the winter, with the exception of one of the piers, which it has been found necessary to reconstruct. This will be done early in the spring.

The bridge next in importance is the bridge across the Quaboag River in the town of Palmer, which consists of three arch spans of granite, one of 49½ feet and two of 20 feet each. This bridge was advertised under two specifications, one for steel concrete and the other for granite masonry. The W. N. Flynt Granite Company of Monson was the lowest bidder under both specifications, and the difference in its bids on the two methods of construction was so small that the commission determined to use the granite in preference to the concrete.

The following is a list of other bridges built by the commission during the year: —

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In Southampton, across the Manhan River, concrete beams, 2 spans, 25 feet each.
In Athol, over West Brook, concrete beam, 1 span, 19 feet.
In Salem, over Forest River, concrete slab, 1 span, 10 feet.
In Templeton, over Brigham Brook, concrete slab, 1 span, 8 feet.
In Orange, over Massachusetts Brook, concrete beam, 1 span, 16 feet.
In Becket, two concrete beam bridges, each of 1 span of 15 feet, and concrete slab, 1 span, 10 feet.
In Agawam, over Tarkhill Brook, concrete slab, 1 span, 10 feet.
In Sunderland, over Dry Brook, concrete slab, 1 span, 9 feet.
In Sturbridge, over Hobbs Brook, concrete arch, 1 span, 11 feet, extension.

Maintenance.

The Legislature appropriated for maintenance purposes $240,000 and for the improvement of the West Becket-East Lee road $10,000. All of the $240,000 has been expended, and, in addition, $154,131.01 from the motor vehicle fees fund.

The estimates of the engineers, showing the money necessary to put all of the existing State roads into good condition in the year 1909, as stated in last year's report, amounted to $684,800. Of the amount available for maintenance, $81,730.48 has been used in the ordinary repair of State roads, which means the cleaning of gutters, the removal of weeds, the smoothing up of the road surface generally, and sanding the roadway, without resurfacing. It will be seen, therefore, that the amount of money spent by the commission this year has not nearly met the requirements for resurfacing, as reported upon by the engineers a year ago. It is, however, fair to say that, with the money spent as is detailed in this report, considerable progress has been made in restoring the roads to better condition. During the year the commission resurfaced about 42 miles of State highway, and put a surface coating of a bituminous binder and sand or screenings on about 115 miles, — a total of nearly 157 miles.

Various methods were employed in the resurfacing. About 23 miles were resurfaced with stone only. On 14 miles the upper course was grouted with a tar product, 8 miles of which had a bituminous surface coating. This surface coating was made of refined tar, tar mixed with asphalt, asphaltic oil or re-

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siduum asphalt, all covered with sand and rolled. On about 4½ miles the stones in the upper course were coated with a bituminous material before being spread upon the road. The road was then rolled, and a surface coating was applied. The materials used were refined tar, genasco and refined tar mixed with 15 per cent. of asphalt.

In Andover about 3,000 feet and in Essex 1,464 feet were resurfaced or repaired in short experimental sections, and a great variety of materials was used.

In Wayland over 2,200 feet were resurfaced with gravel mixed with asphaltic oil, or such oil enriched with asphalt in various proportions.

Of the 115 miles treated with a bituminous surface coating, nearly 104 miles were coated with asphaltic oil and over 11 miles with refined tar. In both cases the bituminous binder was covered with sharp sand or stone screening. In many cases the road so treated really needed resurfacing, and it was carefully patched with the oil or tar and sand, and in some instances broken stone was added, and afterwards the whole surface was coated. If roads so treated wear well, it may do away with the necessity for resurfacing with broken stone.

The use of sand as a protection to macadam roads has been continued wherever a bituminous surface has not been considered necessary because of excessive automobile traffic. It is undoubtedly true, and it has been still further demonstrated by this year's experience, that on an ordinary country road, where the automobile travel is not heavy, a stone road can be preserved in good condition for many years by this means, at an average cost of perhaps from 1½ to 2½ cents per square yard per year. This would amount to from $140 to $220 per mile; but wherever the automobile traffic is heavy, it is undoubtedly true that sand alone will not preserve the road.

The commission has named, in its estimate to the Auditor of the appropriations required during 1910 for the maintenance of State highways, $250,000 in addition to the amount available from automobile fees. It has estimated that under the new automobile law a sum in excess of $200,000 will be realized from this source, which, added to the appropriation asked

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for, would put into the hands of the commission something like $450,000 for repairs and resurfacing during the coming year.

While this sum of money will not be sufficient to put all of the State highways into perfect condition, the commission feels that it is wiser at the present time to be conservative in the use of the new method of construction and surfacing. It hopes, with the money available, to keep the existing roads in reasonable repair and without serious damage, and to gradually get them all back into better condition.

It must be realized that, even without the automobile, the roads of the State are constantly wearing out, and require resurfacing and repair, and that, as has been frequently stated in the past, the cost of repair increases in a very rapid ratio if a road is neglected.

Bituminous Work.

Uncertainty as to what methods and materials are best for obtaining roads that will withstand modern traffic has caused the commission to continue the construction of experimental sections of road, the object of these experiments being to find what treatment is the most economical, considering the cost of construction and maintenance combined, not separately.

Records are made of the minutest details of each method tried, and close observation of the results obtained will enable the commission in the near future to determine what methods or treatments can be most wisely adopted. Every bituminous binder used has been analyzed, over six hundred analyses having been made during the year.

The satisfactory results obtained by giving the roads a light surface coating of refined tar or heavy asphaltic oil has led to extensive use of this treatment; and for the more economical and effective application of the material the commission purchased in England two machines for spraying the bituminous material under pressure, by the use of which machines a very thin coating of oil or tar can be spread uniformly, using one quarter gallon or less to the square yard.

A general conclusion has been reached by the commission as a result of work done up to this time, namely, that in many instances some bituminous binder must be used in the first con-

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struction of a road, and that no positive determination of the exact nature of the binder that will be the most economical in construction and maintenance can be made until more time has elapsed to demonstrate their qualities by actual use on the roads. Meantime, until such determination can be made, the commission considers it advisable to use in general only the commonly used and comparatively inexpensive surface treatment of bituminous binder, using about one-half gallon to the square yard of surface, and covering with stone screenings, fine gravel or coarse sand. This treatment preserves the road, renders resurfacing less urgent, and lays the dust. The general use of oil or other dust layer instead of water has largely increased during the year, possibly because of the law adopted last winter, as recommended by the commission, allowing cities and towns to assess upon the abutters or take from the tax levy the whole or a part of the cost of using these dust layers instead of water.

There are a few principles which the experience of the commission leads it to believe will become universal in future bituminous work. Bituminous surfaces should have less crown than the ordinary macadam road. While the customary crown on macadam roads is $\frac{3}{4}$ inch to the foot, a crown of $\frac{3}{8}$ inch or less has been found to be probably sufficient and possibly more desirable than a greater crown on bituminous surfaces. Experience has also shown that with both automobile and horse traffic on a bituminous road it is advantageous, particularly with roads made by mixing or grouting tar in the top course, to apply a surface sealing coat, preferably of asphalt, as that seems somewhat less slippery, gives a better appearance, and, at the present writing, shows indications of longer life than a surface coating of tar.

An oil or tar, to be useful on a road, must bind the materials together; it must be tenacious and adhesive, — a binder, not a lubricant. One can tell almost as soon as one begins to use a material whether it works well or not; at any rate, at the end of one or two days, when it has had time to set.

It seems evident that the failure of some of the materials to give satisfaction may be due to superheating, which causes them to lose their adhesive properties; or a material may be mixed or

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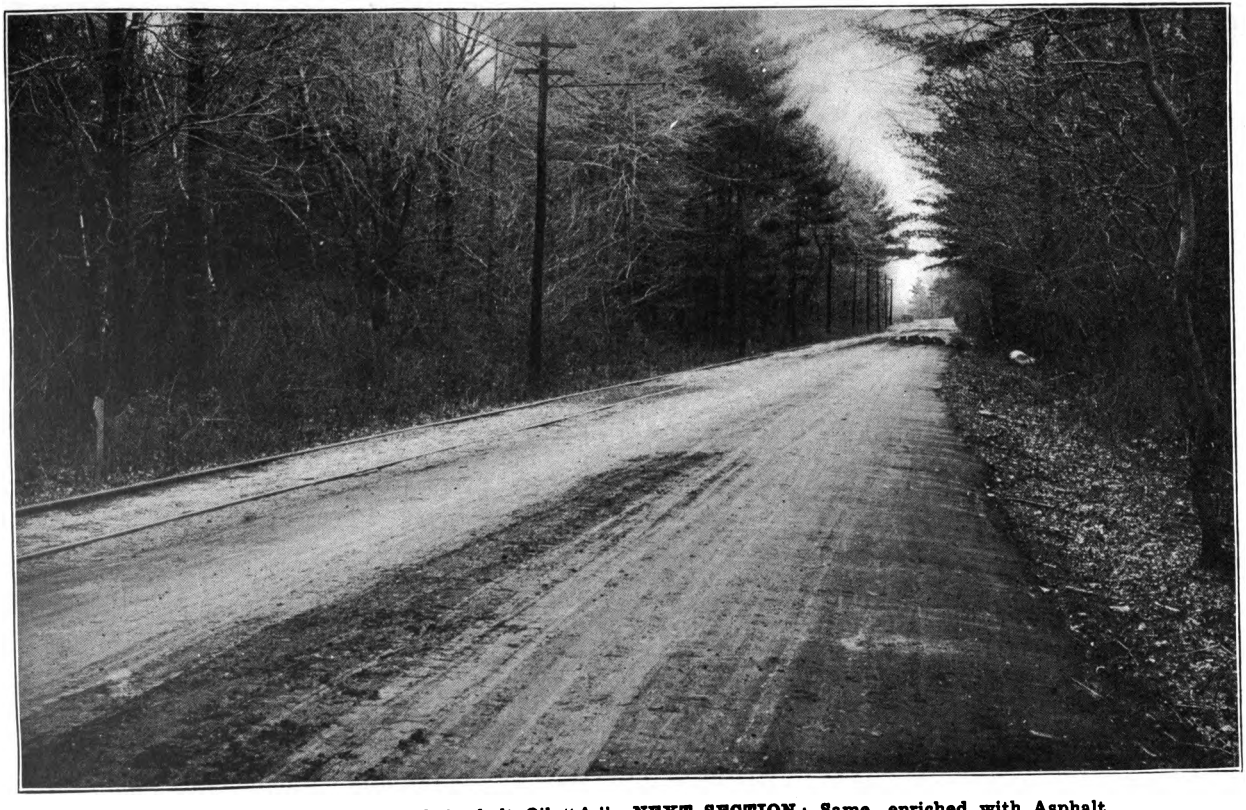
STATE HIGHWAY, WAREHAM.



FOREGROUND: Sand and Asphalt Oil "A." **NEXT SECTION**: Same, enriched with Asphalt.

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thinned or fluxed with a material which is of no value as a road binder, thus taking away the natural adhesiveness of the asphalt or tar that is fluxed with it.

The commission cannot, at this time, announce any specifications which it would feel satisfied to recommend for general adoption.

The commission, however, has had Mr. H. W. Clark, the chief chemist for the State Board of Health, at work all this season making analyses and experiments, which have proved to be of great value, and it hopes before long to adopt specifications which will insure the securing of good road material. Mr. Clark's report will be found in the appendix.

Oil and Sand Roads.

On a good many miles of road the commission has not only applied a surface coating of oil covered with sand or stone dust, but, where the road has been in need of resurfacing, it has patched the ruts or holes with the oil and sand before giving it a surface coating. In some instances, where the road was in a very bad order, it has been given two coats of oil and sand over the entire width, and in other cases two coats have been applied to the middle of the road and one for the entire width.

Roads treated in this manner have proved satisfactory, and at the present time it looks as if this use of oil and sand, if continued and repeated from time to time as necessary, might do away with the necessity of resurfacing such roads with broken stone.

A new road built entirely of asphaltic oil and sand, heated, and mixed by hand, has been built by the commission this year.

The commission has also built some road on the Cape, at Wareham and Rochester, where the same method has been employed, using sand instead of gravel. This road looks reasonably satisfactory, and if it wears well this method of treatment will prove of great benefit to the sandy sections of the State where the travel is not extremely heavy, as it is entirely probable that such a road can be built for one-third of the cost of macadam, or less.

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It is expensive, of course, to heat the sand and oil and mix them by hand, but no doubt the cost of mixing can be largely diminished by the use of some mechanical mixer. Some concrete mixers have been used, with good results, on work of this character. The commission hopes, however, to be able, within a short time, to build sand and oil roads by a cheaper method, either building up in layers, or spreading the oil upon the sand in various coats, and cultivating, shaping and rolling it into shape. A road built in Eastham in this manner, which has been repaired from time to time, has now lasted five years, and, while not, of course, as good as a macadam road, it is reasonably satisfactory, and accommodates the travel in the place where it is located.

A sand and oil road, which was built by this same method in Brewster, Harwich and Orleans last year, is now in fairly satisfactory condition. It ruts somewhat, but every time it is shaped and patched it gets into better condition, and is, at any rate, a decided improvement over the sand road that existed there before.

At Wayland the commission has built a section of road entirely of oil, or oil and asphalt, mixed with various grades of gravel, heated, the whole being thoroughly mixed by hand and then spread upon the road. This has made a most excellent road. It has the appearance of an ordinary asphalt road with a true crown and grade, and so far there have been but few complaints as to its slipperiness.

Results of this Season's Work.

It is perhaps not too much to say that, while the commission has used various bituminous binders, both with tar and asphalt bases, has employed various methods of construction and resurfacing and various methods and materials in surface coating, the roads where these materials have been used have almost invariably been in very satisfactory condition at the end of a year. They are certainly in better condition than most of the roads where no such materials have been used.

In only a very few instances have the roads failed, or gone to pieces, to any great extent. Some places have had to be patched, and occasionally certain spots have required extensive patching,

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but in the main, while some are much better than others, it is true that almost every one of them is reasonably satisfactory. The failures have been very few and of very slight extent.

It is because of the indications as to comparative wear, because of slipperiness, etc., that the commission has been led to adopt one material rather than another.

It can fairly say, however, as a result of this season's work, that the use of bituminous binders in road material has, in its opinion, come to stay, and will be much more prevalent in the future than it has been in the past wherever there is much automobile traffic.

The doubt that exists is not as to the use of some bituminous binder, but which binder to use, and exactly what is the best method of applying it. It will undoubtedly be found that different localities and different materials require somewhat different binders and treatment, and by experience alone can a determination be made as to what will be the best to use in any given locality with the materials that are there available.

Methods of Application.

The English spraying machines, purchased by the commission, are in very common use in England, where many hundreds of miles of road are sprayed with tar annually, and their use in that country is constantly increasing.

It has been the practice in England to spray a thin coating of tar over the road without previously preparing the road surface to any great extent. The tar is spread in a very thin coat, the first coat varying from one-third to one-quarter of a gallon, or even less, to the square yard of surface. A second coat, sometimes being only one-eighth or one-ninth of a gallon to the square yard, is then applied. The English gallon, however, is about one-sixth larger than the standard gallon of this country.

The spraying machines which the commission purchased are made to hold the tar, heat it with a steam coil by means of steam provided by a traction engine or a steam roller, and spread it upon the road in a thin and even coat. The tar is kept under pressure by pumps geared to the wheels, so that a pressure is developed by the movement of the tar-spraying machine itself.

The tar is spread hot upon the road, under pressure, through

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a number of fine nipples which make a very fine spray and cause the tar to spread evenly over the road and into the depressions. The nipples are on a long tube, and have a sort of hood to prevent the tar from being blown to one side by the wind. The machines work very well in applying an even coat of about one-quarter to one-third of a gallon to the square yard. Their use has given very good results, particularly in putting on one coat of tar. The machines have been hauled behind the steam roller which provided the steam for heating the tar. This method of hauling is, of course, somewhat expensive.

Early in the year the commission used heavy asphaltic oil in the spraying machines, and the machines worked very well on this work. At the beginning of the season the commission was handicapped by the inexperience of the persons selected to operate this particular type of machine, as no similar machines had previously been used on work in this country, and the costs of the work done were necessarily high, inasmuch as proper arrangements could not be made for the continuous use of the machines. Toward the end of the season, however, the costs were very much reduced.

One coat of oil, using one-fourth gallon to the square yard, including the cost of sand, oil, labor and expenses in connection with the steam roller, can probably be applied at a cost of less than 5 cents per square yard.

While the work of applying the oil by means of a spraying machine has been more economical than coating roads with oil in any other manner, it should be borne in mind that a smaller quantity of oil is used per square yard. It seems probable that a single coat of one-quarter of a gallon to the square yard will not be sufficient except upon roads which are in good condition. One-half gallon of oil to the square yard appears to give better results on most roads.

In other oil and tar work the material has been spread in various manners. The lighter oil was, in one instance, spread from a sort of trough made of two boards with an opening at the bottom, which was mounted on wheels and which received the oil from a barrel. The American Tar Company's distributer has been used, with very good results, where the quantity of ma-

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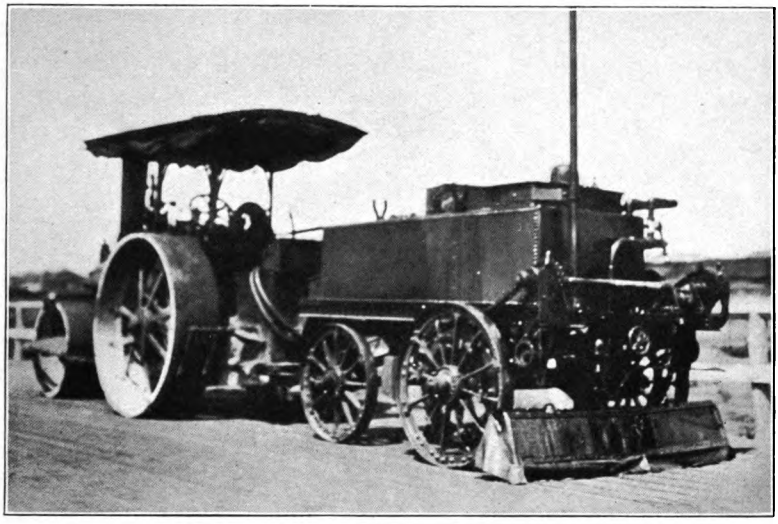
STATE HIGHWAY, LYNN.



ENGLISH TAR-SPRAYING MACHINE.

SPRAYED WITH TAR, PARTIALLY COVERED.

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terial to be spread was about one-half gallon to the square yard. Oil has also been applied from an ordinary half-moon watering cart. When the heavy asphaltic oil has been used, it has always been necessary to heat and apply it hot.

The cost of the surfacing work has varied greatly in different localities, as it depends largely on the length of the haul, the cost of the sand or gravel covering, and on whether or not the oil or tar was purchased in tank car lots or barrel lots. When the heavy grade of oil has been used and applied hot, at the rate of one-half gallon to the square yard, the cost has varied from 6 to 11 cents per square yard, which cost includes the cost of material, labor, and the surface covering of sand, gravel or stone screenings. In many instances these costs included considerable patching which it was necessary to do in order to prepare the road surface for the oiling. In general, it may be stated that a fair price for such work, complete, is from 6 to 8 cents per square yard.

On account of the increased efficiency of the employees of the commission, because of the experience gained during the past season, the cost of the work done with the tar-spraying machines will probably be largely diminished.

In all cases, before applying bitumen to a road, the surface should be carefully prepared, thoroughly cleaned and compacted, all holes and depressions filled, and the roads brought to as true a crown and grade as possible. The oil or tar should then be spread as evenly as possible over the surface of the road, brooming it where necessary to secure a uniform coating, and covered with sharp sand, gravel or stone screenings.

During the first few weeks after the road has been treated, covering material should be added whenever the oil or tar appears upon the surface.

If holes or depressions are left in the road, the water which lodges there soon causes the road to become ravelled.

Roads surfaced with any bituminous binder must shed water, or they will quickly go to pieces.

Dust pockets or loose material will invariably cause the surface to peel or scale. A road should be patched as soon as any scaling appears on the surface.

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All loose material should be cleaned out of depressions, or the edges made straight, before the bituminous material is applied. The depressions should be filled with heated sand, gravel or chips, thoroughly mixed with hot oil or tar, and tamped into the depressions. Another method is to sprinkle the hot oil or tar into the depressions, after it is prepared, covering the material with all the sand, gravel or chips which it will take up. The material should be tamped and the process repeated until the depression is entirely filled.

Tree Planting on State Highways.

At the beginning of the year all trees growing within the limits of the State highways were placed under the charge of the forester, Mr. E. W. Breed. His work during the year has consisted of the care of the trees already planted and the removal of dead and worthless trees and dead branches, cutting back the brush on corners and thinning out the worthless trees in order to secure a clear view around the corners.

Many trees were found which were being injured by the feed wires of electric railways, and the companies were required to protect their wires. This they have done, and as a result many trees which would otherwise have been destroyed have been saved.

During the past year, 730 trees have been planted, making a total of 13,666 trees planted on State highways in the last six years. In the nursery 794 trees were replaced. There are now 1,070 trees on hand in the nursery, ready for planting, and something over 4,000 smaller trees.

Trees have been planted in 58 towns. The average cost of new planting was about 74 cents each, and the cost of preparing the ground was about 49 cents, making a total of $1.23 for each tree set out. It has been necessary to water the trees set out this year on account of the drought, but the number of trees lost has been something under 6 per cent. of those set out, mainly from causes which were not under the control of the forester.

The commission has adopted the practice of putting manure under the roots of the trees in order to reduce the number of

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weeds, instead of using it as a mulch. White clover has then been planted around the trees to crowd out the weeds. This has later been made use of as a fertilizer.

State Highway Traffic Census.

This year the commission decided to have a census taken of the traffic over its 740 miles of State highway. Such a study seemed very necessary, particularly because of the advent of the automobile, in order to determine what class and character of construction would best withstand the kind of traffic which each particular highway would have to bear.

An actual count was made in August at 237 stations and in October at 240 stations on State highways, and continued for fourteen hours each day.

On certain main roads leading into Boston records were taken in August, twenty-four hours a day, so as to include vehicles carrying milk and produce into Boston and the suburbs.

In addition to the records taken by the commission, the Metropolitan Park Commission, the Boston park commission and the street commissioner of Newton caused counts to be made of the traffic over certain roads under their respective jurisdictions.

The total average daily traffic at all stations and the percentages of different vehicles were as follows: —

Average Daily Traffic, All Stations.

	August Census	October Census
Horse-drawn: —		
Light,	19,622	16,456
Heavy,	17,969	17,967
	37,591	34,423
Automobiles: —		
Runabouts,	5,922	3,995
Touring cars,	21,387	14,514
Total,	27,309	18,509
All kinds,	64,900	52,952
Per cent. horse-drawn,	58	65
Per cent. automobile,	42	35

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Average Traffic per Station per Day.

	August Census.	October Census.
Horse-drawn: —		
Light,	83	69
Heavy,	76	75
Total,	159	144
Automobiles,	115	77
All kinds,	274	221

It must be remembered that these statements are merely averages, and that the different stations varied greatly, both as to the amount of travel and as to the relative number of automobiles compared to horse-drawn vehicles. In some cases the automobiles greatly outnumbered the horse-drawn vehicles and in other cases the opposite was true.

The commission is printing in Appendix K the actual traffic census as taken by the observers, and also the census taken in the metropolitan and Boston parks and in Newton, as well as the census taken at night, so that the travel in the various localities can be compared.

It is interesting to note not only the difference in the volume of travel at different points on the same main route, but the relative importance of automobiles on the different routes and in different localities.

The average taken on any particular main route should not be understood to indicate through travel, because almost invariably some one or more of the stations in the middle of the route have relatively very little travel, but the average is brought up by stations nearer some large municipality, where the local travel is heavy. Of course, even the stations in between have some local travel.

At the request of the commission, Mr. A. B. Fletcher, secretary, has made a careful study and summary of this traffic census, and his report to the commission thereon will be found in the above-mentioned appendix. It contains much interesting

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information and a number of tables showing the relative travel over the most important routes, not only out of Boston, but throughout the State.

Bridges.

Under chapter 136 of the Resolves of 1909 the commission was directed "to investigate the subject of causeways and bridges over lakes or ponds and all bridges over streams in the commonwealth which have a span of fifty feet or more, and which are contiguous to state highways, and on routes likely to become state highways in the near future," and to report the result of its investigation to the next General Court. The commission was also directed to include in its report brief descriptions of the present bridges and the approaches thereto, estimates of costs, reasonable detail as to their condition, annual cost of maintenance, as well as the cost of rebuilding and maintaining them during a period of twenty years.

During the past season the commission has had its engineers collect the necessary data to enable it to make a reasonably comprehensive and intelligent report upon the subject. It is manifest that the estimates of cost, maintenance, etc., can only be "estimates," and must be figured upon some uniform basis, which will not be the actual cost for the rebuilding of any given bridge but merely a fair average cost for all the bridges. It would be impossible, without careful study of each particular bridge, borings, soundings, etc., to get anything like an actual estimate.

In addition to the bridges mentioned, the commission has also secured data relating to various other large bridges in the Commonwealth, as it felt that that information was really necessary in order to form any estimate of the cost of rebuilding or maintaining the important bridges in the Commonwealth.

In collecting these reports the commission has interpreted "a 50-foot span" to mean not what would technically be known as a span, but a bridge 50 feet long.

The bridges were divided into classes, to wit: —

1. Causeways and bridges within the limits of the State highways. At the present time there are on file reports of 13 bridges that would come under this class.

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2. Causeways and bridges contiguous to State highways. The reports show 74 bridges under this class.

3. Causeways and bridges on routes which are likely to become State highways in the near future. Under this class there are reports already on file of 51 such causeways and bridges.

4. Causeways and bridges over the larger streams, lakes, etc., in the Commonwealth. This class was intended to include as many of the important bridges as possible. There are already on file 551 reports of such bridges.

The information in regard to these bridges is now in the office of the commission and is being tabulated, and the various other estimates required are being made as rapidly as possible.

When it is considered that the city of Boston alone has paid for over 90 bridges, the construction of which cost nearly $8,500,000 and the yearly maintenance more than $220,000; that some of the counties in the Commonwealth have 60 or 70 bridges of varying lengths, various characters of construction and in varying conditions of repair; that there are, in the neighborhood of Springfield, 3 bridges over the Connecticut River where the distance between banks varies from 1,135 to 1,225 feet, and the cost has varied from $30,000 for the old toll bridge to $170,000 for the north end bridge; and that in addition to these there are 2 bridges over the Chicopee River which are over 200 feet in length, and 2 over the Agawam River 240 and 330 feet in length, respectively, it becomes evident that, to have such a report as this commission was requested to make of any value whatever, the details must be carefully studied, the results must be tabulated and some general conclusions must be formulated.

Therefore the commission does not feel that it is wise at this time to make any further report or to give any more details in regard to the matter; but as soon as possible it will submit a supplementary report, containing all the information which it has been able to collect on the subject it has been directed to inquire into.

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Recommendations for Legislation.

Maintenance of State Highways.

Every year it becomes more and more evident that the problem of maintenance, not only of State highways, but of all highways, is of constantly increasing importance. It is apparent that those much used by automobiles must either be constructed with some bituminous binder, or they must be protected with some surface covering.

The expense of maintenance of State highways, including ordinary repairs, resurfacing or surface treatment, probably will be somewhere between $300 and $500 a mile per year. The commission thinks it might be wise for the Legislature to consider the advisability of providing a law whereby a more equitable proportion of the cost of maintenance can be assessed upon and collected from the cities and towns in which the highways are built, or from the counties, or in part from both, than under the law now in force.

Maintenance of Small Town Roads.

It is evident that when roads are once built in the small towns which are aided by the Commonwealth under the present law, the money expended on construction is largely wasted unless these roads are properly repaired every year.

Under the existing law, the commission has authority to make needed repairs to such roads in cases where they are neglected by the towns themselves, and to charge the cost to such towns up to but not exceeding $50 per mile per year.

In many cases this amount will be insufficient. The commission has, however, no funds available for this purpose. It therefore seems to be necessary, in order to make the present law operative, that the Legislature should provide a fund which the commission could use under such conditions. The commission recommends that $5,000 be made available for this purpose.

Main Lines and Thoroughfares.

The general tendency of this and other States seems to be toward a more central authority directing and controlling the construction and maintenance of the main lines of travel, and

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the division of roads into main thoroughfares, those of secondary importance, and local roads. Such a system would gradually bring more and more roads under the supervision and direction of competent engineers, and would lead not only to better roads, but to more economical expenditures.

It is self-evident that to make any such plan effective the necessary funds for construction and maintenance must be made available, and a comprehensive scheme carefully prepared by which it can be obtained in some fair and equitable manner.

Road Material.

All road-building material is getting scarcer every year, and its value is constantly increasing. It has seemed to the commission, therefore, that it might be wise if a law were passed to authorize not only the Massachusetts Highway Commission, but cities and towns, to purchase or take land for the purpose of obtaining road material, and to take rights of way thereto, the land to be taken in fee.

Under chapter 48 of the Revised Laws, sections 105 and 106, cities and towns have authority to take land in order to obtain material; but they can merely remove the material therefrom for a period of ten years, at the expiration of which time the land reverts to the owner. It is manifest that the cost of this ten-year privilege might equal the whole value of the land, and that roads will have to be repaired for all time to come.

All agreements, contracts or takings of land by the commission should be made subject to the approval of the Governor and Council; and a reasonable amount of money could be made available each year for this purpose, either by special appropriation or by making the money available from the loan fund, the motor vehicle fees fund or some other source.

Weekly Payments.

The commission has been embarrassed frequently because of the fact that it has had no considerable sum of money easily available with which to make payments to laborers engaged upon the work of repairing the State highways. There is a provision of law which requires that all laborers engaged upon such work shall be paid weekly. In the past such weekly payments could

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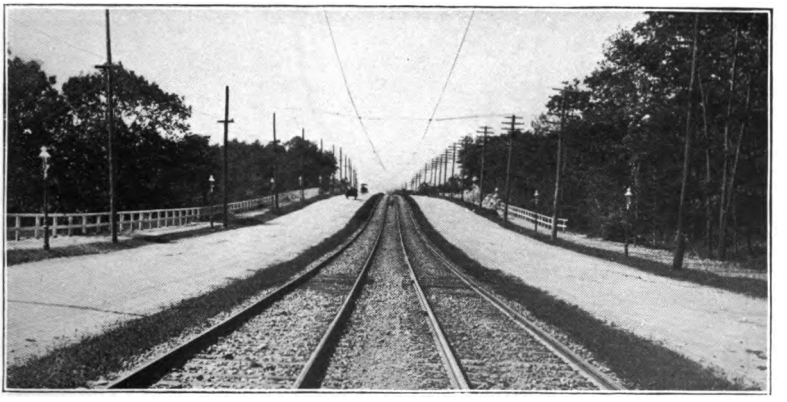
WASHINGTON STREET, BOSTON.

THE OLD ROAD.



THE STATE HIGHWAY.

Photographs at Same Point, before and after Improvement.

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not be made unless some individual was willing to advance the money, and wait usually not less than two weeks until he could be reimbursed through the State treasury.

In the year 1909 the Legislature passed an act authorizing advances to the institutions of the Commonwealth (Acts of 1909, chapter 218), which relieved somewhat similar conditions in the institutions. The commission believes that similar legislation would be of great benefit to the Massachusetts Highway Commission.

Annual Reports.

Chapter 9 of the Revised Laws provides that 4,500 copies of the annual report of the commission shall be printed each year. Of this edition only 500 copies have been supplied to the commission for distribution, and so small a number does not begin to be enough to supply the demand.

The commission recommends, therefore, that 5,000 copies be printed each year, and that 1,000 copies be furnished to it, of which 500 copies may be bound in paper covers.

Grade Crossings.

It has seemed to the commission that it would be wise to have some legislation adopted which would in some way protect the users of the highways as well as the railroad companies, when grade crossings are abolished. This might be accomplished by providing that there shall be a clear view ahead for some minimum distance (for instance, 150 to 200 feet) through the bridge or under-pass, and that on curves there shall be a clear and unobstructed view of the roadway for some minimum distance (for instance, 150 feet). The desired result could be obtained in many other ways by providing minimum tangents or curves, etc.

Such a law should require that when a crossing was abolished the rights of the users of the highway should be considered, and that the highway should be made reasonably safe and convenient for them. In many cases, familiar to every user of the highways, when grade crossings have been abolished conditions have been made even more dangerous than before, so far as the users of the highway were concerned.

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There have been many instances where the under-pass or bridge was too narrow to be safe, and the curves approaching it were so abrupt that one could not see ahead for any reasonable distance. In some cases the narrow roadway has been occupied in part by an electric car track, and the under-pass has been so narrow that a good-sized team or automobile could not go under the railroad and turn the corner to go through the under-pass without turning onto the electric car tracks, with the chance of meeting an electric car at that point, there being practically no view ahead.

Civil Service.

It seems to this commission that it might be wise to provide by law that when any person has been employed under authority of the Civil Service Commission, whether provisionally, temporarily or otherwise, and has performed his duties satisfactorily for a suitable period of time, he shall not be discharged except by order of his employer, for cause, and after a hearing.

It might be wise to provide, also, that in any promotions in any particular employment from one class or grade of service to the one above it, experience in the particular line of work which the appointee has to perform shall be given proper prominence, and that such promotions of efficient and experienced public servants may be made either with or without examination.

Many times in the past, when the commission has desired the services of rodmen, instrumentmen, etc., and has made a requisition upon the Civil Service Commissioners for a person possessing the necessary qualifications, there have been no persons upon its lists whom it could certify.

This commission has, therefore, been authorized to make a so-called "provisional appointment." It has been obliged to find a person whom it could employ to do the work.

The services of such an employee, naturally, become more and more valuable to the Commonwealth as he acquires knowledge and experience in the particular kind of work that this commission has to do.

Several times in the past the Civil Service Commissioners, undoubtedly acting in good faith, under their interpretation

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of the requirements of their rules, have felt obliged to direct this commission to discharge faithful and efficient employees who had been performing their duties in a satisfactory manner for two or more seasons, and to appoint a new and untried person who was certified by them. In one instance the employee sought to be replaced has been employed for many years.

It will manifestly hamper this commission in its work if it is required to discharge faithful and efficient employees because some one else has finally got upon the civil service list and desires the position, though he often possesses no experience in that particular class of work.

The commission feels, therefore, that it might be wise, in the best interests of the Commonwealth, to make clear by a proper law exactly what the powers, rights and duties of this and other commissions and the employers of labor are, not only in their relation to the civil service, but in regard to their own employees.

The law should determine on what terms employees can be employed, for what periods of time, what class of work they can be called upon to perform from time to time, and as to whether the power to determine these various matters in relation to such employment and the duties of the employees is to be vested in the employer, whose duty it is to see that the actual work required is properly performed, or in some one else.

Surveys and Engineering Office Work.

During the year ending Dec. 1, 1909, surveys for preliminary studies, estimates and lay-outs were made in 29 towns, covering a total distance of 36.29 miles; and grade stakes for construction work were set in 58 towns, covering a distance of 42.8 miles, some of the stakes having been set on roads which remained unfinished at the close of the season's work in 1908.

Final surveys were made in 31 towns, covering a total distance of 28.48 miles. Surveys for "small towns" were made in 50 towns, covering a total distance of 23.5 miles, and about 5 miles of miscellaneous surveys were made of roads to be constructed by towns.

Plans, profiles and cross-sections for roads in 25 towns were plotted, representing a distance of 34.5 miles.

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Lay-out plans have been made of roads in 49 towns, covering a total distance of 36.53 miles.

Plans to accompany decrees for street railway locations on State highways and for provisional locations have been made in 16 towns.

Plans and profiles have been made for roads under the small town act in 47 towns, a distance of 19.8 miles.

Preliminary estimates of the cost of work in 81 towns, representing a distance of 66.73 miles, have been made, and final estimates of the cost of work in 69 towns, representing a distance of 87.59 miles.

Automobile Department.

Automobile Law.

Up to the present time the commission has heard very few criticisms as to the uniform automobile law enacted last winter. It seems to be satisfactory in the main, and it seems wise to the commission, unless some serious defect is discovered which has not heretofore come to light, that the law should be left intact, and certainly without any substantial modifications or changes. The provisions of the law are now pretty well understood, and, of course, constant changes lead to great confusion, and render it impossible for the average automobilist to know what the law is.

The provisions in regard to speed limits seem to meet with universal approbation. The fee provision has proven to be satisfactory, and has not been complained of; and the same is true of the special speed regulations.

The only criticisms offered have been of a minor nature, and one or two have been caused by the narrow interpretation put upon the law by certain judges, contrary to the interpretation placed upon it by the vast majority of courts in which automobile cases have been tried. It is believed that these minor troubles will rectify themselves in a short time, as the law becomes better understood by the judges who administer it, the police officers who are to enforce it and the automobilists who must obey it.

The uniform automobile law which was passed at the last session of the Legislature seems to be effective, so far as the four

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sections which went into effect on July 1 are concerned. The authorities of cities and towns, the public and the automobilists seem, in general, to be in accord with and to approve of the provisions of that law.

The Metropolitan Park Commission has practically adopted it in its regulations affecting the use of automobiles in the metropolitan parks. The Boston park commission has done the same, leaving the speed limits provided by law applicable throughout the parks and the city of Boston in general.

So far as special regulations are concerned, the commission has been asked to approve of a very few only. In the main these have related to the exclusion of automobiles from certain narrow and dangerous roads from which they had previously been excluded, from certain portions of the parks in the city of Boston, and from certain parks in Plymouth, Haverhill and other cities, and confining them to certain roadways in Newton, the Boston parks, etc.

Only one or two towns have even attempted to make any special speed regulations affecting particular roads.

The commission, feeling that it was only fair to the public and to all users of the highways that the new law should have a fair trial, has not up to the present time approved of any special speed regulations. It seemed to the commission that before such special regulations, differing from the general law, were approved, the necessity for them should be demonstrated by an honest and earnest effort to enforce the present law. It believes that such an enforcement would accomplish all that is desired by any reasonable person in the way of regulating the danger from automobiles.

In regard to the exclusion of automobiles from particular ways and roads, it does not seem at all likely that there will be any difference of opinion between the commission and the authorities of any city or town in the Commonwealth, certainly not as to the important highways, because the law itself provides that automobiles shall not be excluded from State highways or the main highways leading from one city or town to another.

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Hearings.

During the last year the commission has devoted practically one day each week (Wednesday) to the consideration of automobile cases, hearing several cases during the day. It has also been necessary to hold hearings on other days in the week from time to time. During the year it has held 155 such hearings.

Licenses revoked or suspended.

During the year 68 licenses have been revoked and 132 licenses have been suspended for various terms and for various causes.

The law requires the commission to suspend the license of any operator who is involved in an automobile accident from which death results, and the license can only be given back if, after a hearing or upon an investigation, the commission finds that the accident happened without serious fault on the part of the operator. During the year 44 licenses have been suspended because of such deaths and 9 licenses have been revoked. In 31 cases the licenses have been restored, the commission finding that the accident happened without serious fault on the part of the operator. In several cases the operator was killed, so that no action could be taken.

In most of the cases where the licenses were restored the accidents were such as resulted from the fact that the injured had stopped, run or stepped back, without looking, directly in front of the automobile; they also stepped directly out from behind other vehicles or objects, when they were so close to the automobile that no care or skill on the part of the operator could enable him to avoid hitting them. In these cases the automobiles were being operated at reasonable rates of speed, considering all the attendant circumstances.

The commission is required to revoke the license of any operator who is convicted in court of operating recklessly, or so as to endanger the safety of the public, or while under the influence of intoxicating liquor. If an operator is sentenced in the lower court and appeals, the commission is required to suspend his

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license until he is acquitted, or unless it otherwise orders after an investigation or hearing.

There have been 74 licenses suspended or revoked because of court records. There have been 24 licenses suspended or revoked upon complaints and after a hearing, and 102 licenses suspended or revoked as the result of an investigation, revocations being made only after a hearing.

During the year investigations have been made in 241 cases by investigators appointed by the commission. These investigators have prosecuted 33 offenders against the automobile law in the courts, and have secured 33 convictions.

Besides this, the commission has taken action upon their investigation, and has suspended licenses as a result of the findings of the investigators and on the facts presented by them. It has been the practice of the commission to suspend licenses in the first instance, and then to notify the operators to appear and show cause why their licenses should not be revoked, when the facts presented seemed to warrant such action.

In a few cases where the commission had suspended the licenses on the reports of its investigators or upon court records, hearings have been requested, and as a result of the facts presented at such hearings the licenses have been restored in a few instances. In the majority of cases, however, even after a hearing, the operators have acquiesced in the action taken, even though the commission has seen no reason for revising its former action.

It has been the practice of the commission to write cautionary letters to all operators who were several times convicted in court of minor offenses against the automobile law. It has also been the practice of the commission to suspend the licenses of any operator who has been convicted three times within the calendar year of violating the speed law. The law which goes into effect January 1 will require that the license be revoked in such cases.

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Causes of Suspension or Revocation of Licenses.

Reckless operation,	81
Operating while under influence of liquor,	23
Accidents resulting in death,	44
Improper operation,	10
Refusing to stop after accident,	8
Convicted three times of overspeeding,	11
Operating automobile without owner's consent,	13
Sundry offenses,	10
Total,	200

Automobile Accidents.

According to the reports received in the office of the commission there have been 1,130 automobile collisions during the year, 54 people have been killed and 989 injured. Of the 54 people killed, 19 were occupants of automobiles, 32 were pedestrians and 3 were bicycle riders. Of the people injured, 339 were occupants of automobiles and the balance were pedestrians, occupants of carriages and street car passengers. Of the collisions, 826 occurred in the daytime and 304 after dark; 816 on city or town streets and 314 in the open country.

Court Cases.

During the calendar year the commission received from the courts 4,271 abstracts containing the action taken in automobile cases.

These abstracts showed that 3,892 of the persons complained of were convicted, 163 were found not guilty, 482 cases were placed on file without sentence, and 264 cases were appealed.

The complaints and convictions were for various violations of law: 2,574 for overspeeding, 186 for violations of the park rules, 82 for reckless operation, 31 for operating while under the influence of intoxicating liquor, and 54 for refusing to stop when signalled to do so by an officer. The remainder of the complaints were for various offenses, like the improper display of number plates, operating without a license or without a registration certificate, or operating an unregistered vehicle.

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In 229 cases persons were convicted of operating without the lights required by law, and in 60 cases for operating without having numbers on their lamps. The law which goes into effect Jan. 1, 1910, does not require numbers upon the lamps, but does require the rear number to be properly illuminated.

These abstracts show that fines aggregating $40,721.60 were imposed.

Examinations for Licenses.

The number of examinations during the year of applicants for licenses to operate automobiles amounted to 4,629. This means that 3,473 persons were examined, 1,156 having been examined several times. The number of licenses issued thereon amounted to 3,149, 324 having been refused. In other words, 9.33 per cent. of the persons examined failed to pass, either upon examination or re-examination. Over 1,000 people failed upon their first examination, which amounts to something over 30 per cent.

More than one-half the examinations were held in Boston, the remainder being held in Brockton, Concord, Easthampton, Fall River, Fitchburg, Greenfield, Holyoke, Lawrence, Lowell, New Bedford, Pittsfield, Rockport, Salem, Springfield and Worcester.

Further details concerning the work of the automobile department will be found in Appendix J.

Automobile Fees.

The graded fee, which goes into effect Jan. 1, 1910, so far as the commission can learn, has been approved of by a vast majority, at least of the owners of high-powered cars.

During the year 1909, 23,971 automobiles and 2,394 motor cycles were registered. The amount of the fees collected from these automobiles, at $5 each, was $119,855; and the amount collected from the motor cycles was $4,788, at $2 each.

The total amount collected from registration fees, license fees, etc., was $169,973.54. From this amount had to be paid the cost of number plates, salaries of clerks, investigators, etc., in the automobile department, as well as many other expenses, the balance being applicable to the repair of State highways.

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Estimated Revenue from Automobiles in 1910.

So far as can be learned by counting the horse power of the automobiles registered, as returned by the persons registering them in 1909, the average fee to be collected in 1910 under the provision of law relating to graded fees will be $8.84, instead of the $5 flat fee which was collected in 1909. This small difference is accounted for by the fact that in the law enacted the Legislature retained the $5 flat fee for all automobiles under 20 horse power.

According to the returns to the commission, it is estimated that more than one-half of all the cars registered were under 20 horse power.

Estimating the amount of revenue to be obtained from automobile fees in 1910, from automobile registrations and upon returns made in 1909, the total amount collected from automobiles in 1910 will be about $210,000, as compared with $119,855 collected in 1909. This estimate is based upon the assumption that the average fee is as figured, $8.84, and also that the same number of cars will be registered in 1910 as were registered in 1909. There may be more automobiles registered, and their horse power may be found to be greater or less than the horse power stated in the applications received in 1909.

It must be remembered that all the expenses have to be paid before any of the money collected from automobile fees is available for use on the State highways.

Changes in Organization.

Since the commission was organized, in 1893, Mr. Austin B. Fletcher has acted as its secretary. In the organization of the commission and the work of its various departments his services have been of great value, continuing in office as he did from the beginning. Since 1901 Mr. Fletcher has not only served as secretary but he has been the executive officer of the Board, and, in a sense, its chief engineer, supervising the work of the division engineers and the engineering department of the Board, as well as the work of the automobile and telephone departments. His services had become extremely valuable to the Common-

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wealth, and the commission has suffered a great loss in his accepting a position that was offered to him in the State of California, where he will have entire charge of the construction of many miles of highway. The commission wishes at this time to express its high appreciation of the valuable services which he so efficiently performed for so many years. He was an able, efficient and capable executive officer, of the highest personal integrity, clear sighted and of unusual ability, both in organization and construction. The resignation of Mr. Fletcher, with the constantly increasing work of the commission, has made it necessary to make changes in organization.

Mr. Frank I. Bieler, who has been acting as assistant secretary, has been promoted to the position of secretary.

Miss Mary A. Riley, who for years has had immediate charge of the records and various other official papers of the Board, under the direction of the secretary, has been appointed recording secretary.

Mr. Fred Fair, who has been in the office for many years, has been promoted to the office of assistant secretary.

On account of the increased work of the commission, it became necessary to appoint a chief engineer, to have the direction not only of the office engineering force and the force in the field making surveys, etc., but also of the resident engineers who are in charge of the construction and maintenance work in their various divisions throughout the State.

Mr. Arthur W. Dean has been chosen for this position. He has been for some years chief engineer of the State of New Hampshire, and has had charge of the construction of the State highway system in that State. He was born in Massachusetts, received his education in part at the Massachusetts Institute of Technology, was engaged in street railway work in New Hampshire and Massachusetts, and afterwards was made State engineer of New Hampshire.

Expenditures.

The following is a summary of the expenditures of the Massachusetts Highway Commission from Dec. 1, 1908, to Nov. 30, 1909: —

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CONSTRUCTION EXPENDITURES.

TOWN OR CITY.	Amount.	Totals.
Barnstable County.		
Barnstable,	$376 48	
Brewster,	501 27	
Chatham,	5,948 85	
Dennis,	237 12	
Eastham,	1,910 75	
Falmouth,	3,229 59	
Harwich,	4,007 02	
Orleans,	1,634 09	
Provincetown,	2,137 88	
Truro,	17,673 44	
Yarmouth,	236 81	
		$37,893 30
Berkshire County.		
Adams,	$6,144 51	
Becket,	7 60	
Cheshire,	25 74	
Clarksburg,	8,766 14	
Dalton,	2 50	
Hancock,	54 85	
Hinsdale,	13 86	
Lee,	688 15	
Lenox,	950 74	
North Adams,	38 42	
Pittsfield,	12,987 14	
Richmond,	38 63	
Stockbridge,	2,624 36	
Williamstown,	13 83	
Windsor,	1,624 41	
		33,980 88
Bristol County.		
Attleborough,	$5,079 85	
Dartmouth,	1 93	
Dighton,	4,555 20	
Fairhaven,	6 43	
Mansfield,	3 13	
Norton,	1,058 14	
Rehoboth,	862 68	
Somerset,	1 93	
Swansea,	4,515 42	
Taunton,	7 04	
Westport,	1 93	
		16,093 68
Dukes County.		
Chilmark,	$5,205 39	
Oak Bluffs,	144 17	
		5,349 56
Amount carried forward,		$93,317 42

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CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Amount.	Totals.
Amount brought forward,		$93,317 42
Essex County.		
Andover,	$385 62	
Beverly,	42 93	
Essex,	53	
Gloucester,	717 13	
Groveland,	54	
Hamilton,	8,783 20	
Haverhill,	8,451 20	
Ipswich,	11,189 02	
Lawrence,	54	
Methuen,	1,649 33	
Newbury,	69 89	
Newburyport,	1 70	
North Andover,	926 62	
Rowley,	5,880 75	
Salem,	12,492 06	
Salisbury,	5 92	
Swampscott,	1 16	
Wenham,	94 78	
West Newbury,	14,530 42	
		65,223 34
Franklin County.		
Ashfield,	$0 50	
Buckland,	50	
Colrain,	50	
Deerfield,	12,159 34	
Erving,	8,399 43	
Greenfield,	2 23	
Montague,	7,079 51	
Northfield,	2 43	
Orange,	56 13	
Shelburne,	50	
Sunderland,	2,698 72	
		30,399 79
Hampden County.		
Agawam,	$10,967 10	
Brimfield,	13 46	
Chester,	8,911 27	
Chicopee,	258 33	
Monson,	928 91	
Palmer,	11,565 49	
Westfield,	51 24	
Wilbraham,	567 89	
		33,263 69
Amount carried forward,		$222,204 24

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CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Amount.	Totals.
Amount brought forward,		$222,204 24
Hampshire County.		
Amherst,	$10 10	
Belchertown,	1 22	
Easthampton,	184 38	
Goshen,	608 87	
Granby,	1,345 77	
Hadley,	581 61	
Hatfield,	4,326 23	
Huntington,	2,218 38	
Northampton,	227 52	
South Hadley,	5,245 04	
Southampton,	3,277 56	
Ware,	1 22	
Williamsburg,	2 50	
		18,030 40
Middlesex County.		
Acton,	$33 30	
Ashby,	679 59	
Bedford,	2 70	
Billerica,	5,887 22	
Chelmsford,	629 92	
Concord,	53 22	
Dracut,	607 55	
Framingham,	124 02	
Groton,	1,286 50	
Holliston,	2 85	
Lexington,	1 10	
Littleton,	588 12	
Lowell,	49 81	
Marlborough,	3,646 09	
Medford,	47 49	
Melrose,	53	
Natick,	387 82	
North Reading,	31 96	
Pepperell,	1,286 49	
Reading,	259 48	
Somerville,	6,822 81	
Stoneham,	31 58	
Sudbury,	233 07	
Tewksbury,	36 06	
Townsend,	68 02	
Tyngsborough,	52 76	
Wayland,	1 10	
Weston,	1 10	
Wilmington,	395 77	
Winchester,	2 15	
		23,250 18
Amount carried forward,		$263,484 82

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CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Amount.	Totals.
Amount brought forward,		$263,484 82
Norfolk County.		
Bellingham,	$2 85	
Braintree,	75	
Canton,	363 82	
Cohasset,	1 40	
Dover,	479 71	
Foxborough,	4,903 58	
Franklin,	2 85	
Needham,	6 49	
Norfolk,	18 14	
Norwood,	51 33	
Quincy,	1 40	
Randolph,	2,588 00	
Sharon,	1,092 01	
Walpole,	98 90	
Wellesley,	19 72	
Westwood,	23 23	
Weymouth,	3,474 06	
Wrentham,	25 55	
		13,153 79
Plymouth County.		
Abington,	$0 75	
Bridgewater,	92	
Brockton,	75	
Duxbury,	6,223 09	
Hanover,	242 55	
Hingham,	52 25	
Kingston,	1 40	
Lakeville,	65	
Marion,	10 90	
Marshfield,	4,649 72	
Mattapoisett,	4 18	
Middleborough,	1,225 76	
Plymouth,	1 40	
Rochester,	2,287 59	
Scituate,	7,720 34	
Wareham,	2,549 70	
		24,971 95
Worcester County.		
Athol (bridge),	$520 76	
Auburn,	36 76	
Barre,	42 61	
Brookfield,	51 92	
Charlton,	859 25	
Dudley,	2 23	
Fitchburg,	51 11	
Amounts carried forward,	$1,564 64	$301,610 56

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CONSTRUCTION EXPENDITURES — *Concluded.*

TOWN OR CITY.	Amount.	Totals.
Amounts brought forward,	$1,564 64	$301,610 56
Gardner,	1,411 96	
Grafton,	25 21	
Hardwick,	1 22	
Holden,	2,437 96	
Leicester,	264 97	
Leominster,	1 15	
Lunenburg,	50	
Milford,	6,474 71	
North Brookfield,	1 15	
Northborough,	14 58	
Oxford,	8,975 67	
Paxton,	3 56	
Phillipston,	4,952 48	
Princeton,	22 59	
Shrewsbury,	408 01	
Southborough,	2,915 04	
Southbridge,	2 24	
Spencer,	28 21	
Sterling,	5,203 49	
Sturbridge,	4,691 15	
Templeton,	7,623 73	
Uxbridge,	2,431 49	
Warren,	43 02	
Webster,	62 87	
West Brookfield,	54 94	
Westborough,	15 87	
Westminster,	350 70	
Winchendon,	101 74	
Worcester,	5 06	
		50,089 91
		$351,700 47

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Repair and Maintenance Expenditures.

[Under chapters 212 and 657 of the Acts of 1908 and chapters 127 and 493 of the Acts of 1909.]

TOWN OR CITY.	Paid from Revenue.		Amount.	Totals.
	Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.		
Barnstable County.				
Barnstable,	$156 34	$417 85	$574 19	
Bourne,	70	1,249 55	1,250 25	
Brewster,	1 20	519 92	521 12	
Chatham,	18 07	439 82	457 89	
Dennis,	15 08	443 48	458 56	
Eastham,	9 88	509 77	519 65	
Falmouth,	205 14	1,221 95	1,427 09	
Harwich,	69 72	373 23	442 95	
Orleans,	4 14	286 71	290 85	
Provincetown,	17	264 78	264 95	
Sandwich,	44	176 11	176 55	
Truro,	150 43	531 83	682 26	
Wellfleet,	40 04	579 52	619 56	
Yarmouth (north),	10 57	384 52	395 09	
Yarmouth (south),	10 80	421 35	432 15	
	$692 72	$7,820 39	$8,513 11	$8,513 11
Berkshire County.				
Adams,	$48 60	$699 50	$748 10	
Becket,	2 14	352 16	354 30	
Cheshire,	30	160 82	161 12	
Clarksburg,	–	84 73	84 73	
Dalton,	2 50	218 97	221 47	
Great Barrington,	–	295 63	295 63	
Hancock,	–	939 68	939 68	
Hinsdale,	–	54 41	54 41	
Lee,	32 69	2,701 72	2,734 41	
Lenox,	51 64	6,817 19	6,868 83	
North Adams,	8 38	549 69	558 07	
Pittsfield	756 08	2,126 25	2,882 33	
Richmond,	–	217 50	217 50	
Stockbridge,	74 96	234 32	309 28	
Williamstown,	5 80	188 57	194 37	
Windsor,	–	22 05	22 05	
	$983 09	$15,663 19	$16,646 28	16,646 28
Bristol County.				
Acushnet,	$48 60	$232 69	$281 29	
Attleborough,	50 91	236 30	287 21	
Berkley,	12	29 01	29 13	
Dartmouth,	161 60	2,505 72	2,667 32	
Dighton,	33	74 25	74 58	
Easton,	66 57	88	67 45	
Am'ts carried for'd,	$328 13	$3,078 85	$3,406 98	$25,159 39

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REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	PAID FROM REVENUE. Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.	Amount.	Totals.
Am'ts brought for'd, .	$328 13	$3,078 85	$3,406 98	$25,159 39
Fairhaven, . . .	84 52	92 09	176 61	
Freetown, . . .	231 10	188 36	419 46	
Mansfield, . . .	19	80 75	80 94	
North Attleborough, .	1 56	199 86	201 42	
Norton, . . .	61 62	137 07	198 69	
Raynham, . . .	21 53	74 45	95 98	
Rehoboth, . . .	69 34	324 08	393 42	
Seekonk, . . .	43	16 45	16 88	
Somerset, . . .	151 74	515 49	667 23	
Swansea, . . .	15 08	135 46	150 54	
Taunton, . . .	1 37	275 23	276 60	
Westport, . . .	53 30	290 09	343 39	
	$1,019 91	$5,408 23	$6,428 14	6,428 14
Dukes County.				
Chilmark, . . .	$6 93	$195 13	$202 06	
Edgartown, . . .	–	2,374 90	2,374 90	
Oak Bluffs, . . .	37	2,957 91	2,958 28	
Tisbury, . . .	30	100 92	101 22	
	$7 60	$5,628 86	$5,636 46	5,636 46
Essex County.				
Amesbury, . . .	$49 68	$83 67	$133 35	
Andover, . . .	96 38	5,946 77	6,043 15	
Beverly, . . .	429 53	2,781 64	3,211 17	
Essex, . . .	1,114 39	1,464 49	2,578 88	
Gloucester, . . .	117 06	7,677 37	7,794 43	
Groveland, . . .	171 95	131 86	303 81	
Hamilton, . . .	89 55	44 75	134 30	
Haverhill, . . .	11 68	189 10	200 78	
Ipswich, . . .	19 00	217 71	236 71	
Lawrence, . . .	–	28 89	28 89	
Lynn, ...	36 90	1,559 60	1,596 50	
Merrimac, . . .	64 71	101 97	166 68	
Methuen, . . .	106 38	56 19	162 57	
Newbury, . . .	42 68	1,603 78	1,646 46	
Newburyport, . .	38 44	5,338 04	5,376 48	
North Andover, . .	178 36	177 63	355 99	
Rockport, . . .	–	119 65	119 65	
Rowley, . . .	91 91	383 35	475 26	
Salem, . . .	–	12 44	12 44	
Salisbury, . . .	12 02	70 27	82 29	
Saugus, . . .	–	287 38	287 38	
Am'ts carried for'd, .	$2,670 62	$28,276 55	$30,947 17	$37,223 99

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REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	PAID FROM REVENUE. Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.	Amount.	Totals.
Am'ts brought for'd,	$2,670 62	$28,276 55	$30,947 17	$37,223 99
Swampscott,	–	949 42	949 42	
Wenham,	908 62	891 57	1,800 19	
West Newbury,	219 12	5,962 47	6,181 59	
	$3,798 36	$36,080 01	$39,878 37	39,878 37
Franklin County.				
Ashfield,	–	$228 05	$228 05	
Buckland,	$6 32	505 46	511 78	
Charlemont,	19 62	234 50	254 12	
Colrain,	4 65	135 32	139 97	
Deerfield,	3 00	655 66	658 66	
Erving,	–	364 90	364 90	
Greenfield,	–	304 44	304 44	
Montague,	–	265 31	265 31	
Northfield,	–	146 53	146 53	
Orange,	1 76	4,678 64	4,680 40	
Shelburne,	2 37	262 34	264 71	
Sunderland,	–	90 98	90 98	
Whately,	–	5,204 05	5,204 05	
	$37 72	$13,076 18	$13,113 90	13,113 90
Hampden County.				
Agawam,	–	$132 91	$132 91	
Brimfield,	–	61 91	61 91	
Chester,	$15 24	423 00	438 24	
Chicopee,	92 60	1,458 48	1,551 08	
East Longmeadow,	15 15	54 09	69 24	
Monson,	–	93 61	93 61	
Palmer,	50	2,287 47	2,287 97	
Russell,	2 14	3,361 07	3,363 21	
Wales,	–	31 92	31 92	
West Springfield,	–	3,907 37	3,907 37	
Westfield,	–	8,991 70	8,991 70	
Wilbraham,	–	802 50	802 50	
	$125 63	$21,606 03	$21,731 66	21,731 66
Hampshire County.				
Amherst,	–	$83 11	$83 11	
Belchertown,	–	70 52	70 52	
Easthampton,	–	151 60	151 60	
Goshen,	–	124 87	124 87	
Granby,	–	2,631 81	2,631 81	
Hadley,	–	851 14	851 14	
Hatfield,	–	23 40	23 40	
Am'ts carried for'd,	–	$3,936 45	$3,936 45	$111,947 92

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REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	PAID FROM REVENUE. Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.	Amount.	Totals.
Am'ts brought for'd, .	–	$3,936 45	$3,936 45	$111,947 92
Huntington, . .	2 14	19 25	21 39	
Northampton, . .	–	2,068 13	2,068 13	
South Hadley, . .	13 08	5,184 22	5,197 30	
Southampton, . .	108 77	31 00	139 77	
Ware, ...	–	683 43	683 43	
Williamsburg, . .	–	764 18	764 18	
	$123 99	$12,686 66	$12,810 65	12,810 65
Middlesex County.				
Acton, . . .	$5 60	$563 36	$568 96	
Ashby, . . .	–	3,105 13	3,105 13	
Ashland, . . .	43 25	344 35	387 60	
Bedford, . . .	90 42	107 55	197 97	
Billerica, . . .	–	27 91	27 91	
Boxborough, . .	2 49	182 17	184 66	
Burlington, . . .	23 55	546 03	569 58	
Chelmsford, . .	169 32	561 30	730 62	
Concord, . . .	111 78	5,687 96	5,799 74	
Dracut, . . .	207 70	47 53	255 23	
Framingham, . .	53 50	111 73	165 23	
Groton, . . .	02	59 75	59 77	
Holliston, . . .	–	104 98	104 98	
Hudson, . . .	24 25	53 00	77 25.	
Lexington, . . .	91 55	498 12	589 67	
Lincoln, . . .	65 13	346 05	411 18	
Littleton, . . .	–	306 32	306 32	
Lowell (east), . .	–	39 39	39 39	
Lowell (north), . .	30 04	409 68	439 72	
Lowell (south), . .	80	333 68	334 48	
Marlborough, . .	129 05	3,661 94	3,790 99	
Medford, . . .	94 36	429 17	523 53	
Melrose, . . .	–	19 51	19 51	
Natick, . . .	74 63	273 56	348 19	
Newton, . . .	70	8 59	9 29	
North Reading, . .	1 75	393 68	395 43	
Reading, . . .	247 39	2,302 87	2,550 26	
Stoneham, . . .	159 85	465 19	625 04	
Somerville, . . .	04	400 15	400 19	
Sudbury, . . .	10 77	2,327 86	2,338 63	
Tewksbury, . . .	140 14	253 32	393 46	
Townsend, . . .	3 08	710 52	713 60	
Tyngsborough, . .	36 83	528 47	565 30	
Watertown, . .	47 66	137 01	184 67	
Wayland, . . .	103 12	4,202 98	4,306 10.	
Am'ts carried for'd, .	$1,968 77	$29,550 81	$31,519 58	$124,758 57

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REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	PAID FROM REVENUE. Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.	Amount.	Totals.
Am'ts brought for'd, .	$1,968 77	$29,550 81	$31,519 58	$124,758 57
Westford, . . .	–	263 23	263 23	
Weston, . . .	79 55	1,461 76	1,541 31	
Wilmington, . .	–	26 47	26 47	
Winchester, . .	81 92	532 73	614 65	
Woburn, . . .	12 70	386 41	399 11	
	$2,142 94	$32,221 41	$34,364 35	34,364 35
Nantucket County.				
Nantucket, . . .	$1 00	$10,520 34	$10,521 34	10,521 34
Norfolk County.				
Bellingham, . .	$0 02	$107 68	$107 70	
Braintree, . . .	16	99 86	100 02	
Canton, . . .	50	999 92	1,000 42	
Cohasset, . . .	75 21	45 52	120 73	
Dover, . . .	167 54	93 15	260 69	
Foxborough, . .	44	226 29	226 73	
Franklin, . . .	–	67 93	67 93	
Holbrook, . . .	27	32 04	32 31	
Milton, . . .	12 14	57 62	69 76	
Needham, . . .	64 38	55 98	120 36	
Norfolk, . . .	22	502 38	502 60	
Norwood, . . .	32	1,622 96	1,623 28	
Plainville, . . .	48	935 05	935 53	
Quincy, . . .	21 10	394 40	415 50	
Randolph, . . .	21	158 92	159 13	
Sharon, . . .	10 33	55 46	65 79	
Stoughton, . .	2 76	955 39	958 15	
Walpole, . . .	70	2,540 95	2,541 65	
Wellesley, . . .	17 06	151 13	168 19	
Westwood, . . .	16	21 40	21 56	
Weymouth, . . .	193 74	599 27	793 01	
Wrentham, . . .	10 38	1,570 33	1,580 71	
	$578 12	$11,293 63	$11,871 75	11,871 75
Plymouth County.				
Abington, . . .	$1 49	$203 74	$205 23	
Bridgewater, . .	20 54	336 93	357 47	
Brockton, . . .	198 54	146 23	344 77	
Duxbury, . . .	69	375 56	376 25	
Hanover, . . .	29	153 81	154 10	
Hingham, . . .	93 59	486 07	579 66	
Kingston, . . .	59 51	119 59	179 10	
Lakeville, . . .	55	173 13	173 68	
Am'ts carried for'd, .	$375 20	$1,995 06	$2,370 26	$181,516 01

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REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	PAID FROM REVENUE. Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.	Amount.	Totals.
Am'ts brought for'd, .	$375 20	$1,995 06	$2,370 26	$181,516 01
Marion, . . .	1 31	6,552 91	6,554 22	
Marshfield, . . .	71	313 19	313 90	
Mattapoisett, . .	70 58	1,488 33	1,558 91	
Middleborough, . .	70 80	253 54	324 34	
Pembroke, . . .	91 58	35 54	127 12	
Plymouth, . . .	3 42	442 94	446 36	
Rochester, . . .	82	98 74	99 56	
Rockland, . . .	175 14	246 32	421 46	
Scituate, . . .	64	406 81	407 45	
Wareham, . . .	106 44	2,983 18	3,089 62	
West Bridgewater, .	49	8,007 20	8,007 69	
Whitman, . . .	36	73 51	73 87	
	$897 49	$22,897 27	$23,794 76	23,794 76
Suffolk County.				
Chelsea, . . .	$35 75	$94 21	$129 96	
Revere (east), . .	–	198 22	198 22	
Revere (west), . .	–	277 76	277 76	
	$35 75	$570 19	$605 94	605 94
Worcester County.				
Athol, . . .	$1 52	$242 90	$244 42	
Auburn, . . .	4 97	4,299 23	4,304 20	
Barre, . . .	–	126 65	126 65	
Blackstone, . . .	–	131 50	131 50	
Brookfield, . . .	12 38	608 41	620 79	
Charlton, . . .	55	573 91	574 46	
Douglas, . . .	39 26	134 39	173 65	
Dudley, . . .	1 00	439 38	440 38	
Fitchburg, . . .	27 68	417 56	445 24	
Gardner, . . .	–	859 56	859 56	
Grafton, . . .	61 77	2,404 42	2,466 19	
Hardwick, . . .	–	217 87	217 87	
Harvard, . . .	17 26	45 84	63 10	
Holden, . . .	11 40	6,048 91	6,060 31	
Lancaster, . . .	–	64 28	64 28	
Leicester, . . .	185 69	2,222 59	2,408 28	
Leominster, . .	14 95	257 03	271 98	
Lunenburg, . . .	9 90	290 06	299 96	
Milford, . . .	–	163 80	163 80	
Millbury, . . .	56 32	473 66	529 98	
New Braintree, . .	–	36 03	36 03	
North Brookfield, .	1 70	113 11	114 81	
Northborough, . .	138 98	1,588 83	1,727 81	
Am'ts carried for'd, .	$585 33	$21,759 92	$22,345 25	$205,916 71

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REPAIR AND MAINTENANCE EXPENDITURES — *Concluded.*

TOWN OR CITY.	PAID FROM REVENUE.		Amount.	Totals.
	Chapters 212 and 657, 1908.	Chapters 127 and 493, 1909.		
Am'ts brought for'd, .	$585 33	$21,759 92	$22,345 25	$205,916 71
Oxford, . . .	–	131 52	131 52	
Paxton, . . .	65	3,781 32	3,781 97	
Phillipston, . . .	19 84	186 67	206 51	
Princeton, . . .	90	–	90	
Rutland, . . .	–	270 18	270 18	
Shrewsbury, . .	31 45	1,916 81	1,948 26	
Southborough, . .	23 99	412 25	436 24	
Southbridge, . .	28 33	59 64	87 97	
Spencer, . . .	5 05	2,752 03	2,757 08	
Sterling, . . .	5 60	476 62	482 22	
Sturbridge, . . .	70	44 62	45 32	
Sutton, . . .	65	249 87	250 52	
Templeton, . . .	–	350 30	350 30	
Uxbridge, . . .	90	132 70	133 60	
Warren, . . .	36 64	601 97	638 61	
Webster, . . .	–	130 49	130 49	
Westborough, . .	18 02	141 73	159 75	
West Boylston, . .	20	397 86	398 06	
West Brookfield, . .	10 65	394 84	405 49	
Westminster, . .	–	660 42	660 42	
Winchendon, . .	–	53 41	53 41	
Worcester, . . .	90	6,392 91	6,393 81	
	$769 80	$41,298 08	$42,067 88	42,067 88
Total, . . .	. . .	. . .	. . .	$247,984 59

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Expenditures for Repairs of State Highways.

[Under Chapter 642, Acts of 1908.]

Motor Vehicles Fees Fund.

Agawam,	$1,448 33
Amesbury,	60
Andover,	973 34
Ashby,	19 25
Auburn,	6,325 96
Barre,	104 98
Becket,	143 60
Bedford,	1 99
Bellingham,	60
Beverly,	1,260 98
Blackstone,	40
Bourne,	1,630 85
Brockton,	27 68
Brookfield,	527 51
Canton,	2,063 02
Charlton,	43 81
Chelmsford,	20
Chelsea,	75
Chicopee,	3 10
Concord,	216 81
Dartmouth,	19 13
Dighton,	24 20
Douglas,	53 75
Dover,	80
Eastham,	2 16
Easton,	12 62
Edgartown,	248 44
Erving,	4 84
Essex,	85 09
Framingham,	40
Franklin,	40
Gardner,	430 72
Gloucester,	834 03
Grafton,	627 42
Granby,	112 37
Great Barrington,	1,510 80
Groton,	25 00
Groveland,	65
Hadley,	44 62
Hamilton,	199 45
Amount carried forward,	$19,030 65

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Amount brought forward,	$19,030 65
Haverhill,	1 00
Hingham,	4,167 71
Holden,	666 11
Holliston,	45
Hudson,	10
Huntington,	183 59
Ipswich,	571 73
Lawrence,	1 00
Lee,	3,169 65
Leicester,	8,476 21
Lenox,	5,570 38
Lexington,	900 96
Lincoln,	299 82
Lowell,	196 14
Lynn,	972 79
Marion,	1,045 88
Marlborough,	223 33
Mattapoisett,	266 49
Merrimac,	90
Methuen,	50
Nantucket,	112 40
Natick,	84
Newbury,	1,177 80
Newburyport,	232 26
Norfolk,	2,594 61
North Adams,	1,252 90
Northampton,	48 63
North Andover,	40
Northborough,	878 05
North Reading,	40
Norwood,	1,343 43
Oak Bluffs,	248 46
Orange,	11 55
Palmer,	534 38
Paxton,	7,559 58
Pittsfield,	236 74
Plainville,	2,659 56
Quincy,	1,009 21
Randolph,	1,026 63
Reading,	453 29
Revere (east),	33 86
Revere (west),	3,390 87
Rowley,	45 45
Amount carried forward,	$70,596 69

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Amount brought forward,	$70,596 69	
Russell,	550 95	
Salem,	26 55	
Salisbury,	906 76	
Saugus,	2,599 98	
Seekonk,	6 15	
Shrewsbury,	2,490 70	
Somerset,	591 82	
Southborough,	42 75	
Southbridge,	4 00	
South Hadley,	199 74	
Spencer,	774 23	
Stockbridge,	610 25	
Stoneham,	417 99	
Stoughton,	737 91	
Sudbury,	3,276 24	
Swampscott,	762 58	
Taunton,	34 80	
Tewksbury,	3,724 64	
Walpole,	6,898 96	
Wareham,	3,152 39	
Warren,	243 69	
Watertown,	3,101 38	
Wayland,	476 66	
Webster,	50 43	
Wellesley,	85	
Wellfleet,	5 20	
Wenham,	1,485 44	
West Bridgewater,	758 96	
West Brookfield,	47 88	
Westminster,	1,860 08	
West Newbury,	249 29	
Weston,	1,829 04	
West Springfield,	1,099 86	
Westwood,	338 52	
Whately,	633 14	
Wilbraham,	186 67	
Williamstown,	1,412 85	
Wilmington,	747 17	
Worcester,	2,802 42	
Wrentham,	1,696 22	
		$117,431 83
Traffic census : —		
Paid observers,	$4,377 23	
Printing,	76 68	
Amounts carried forward,	$4,453 91	$117,431 83

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Amounts brought forward,	$4,453 91	$117,431 83
Postage,	127 40	
Office expense,	40 50	
Miscellaneous expense,	38 73	
		4,660 54
Miscellaneous : —		
Analysis of tar and oil,	$2,579 16	
Cost of tar-spraying machines,	3,181 61	
Duty on tar-spraying machines,	1,370 15	
Tar and oil kettles,	335 00	
Wagons for distributing oil and tar,	413 00	
Automobile and supplies,	1,701 28	
Graders,	426 42	
Petrolithic roller,	762 50	
Repair of road roller,	850 00	
Miscellaneous items,	419 52	
		12,038 64
Cost of engineering,		20,000 00
		$154,131 01

Expenditures under "Small Town" Acts.

[Chapter 47, Revised Laws, and Chapter 279, Acts of 1908.]

Alford,	$47 98
Ashburnham,	555 29
Avon,	444 23
Ayer (two contracts),	1,388 23
Becket,	87 96
Berlin,	888 46
Bernardston,	666 35
Bolton,	544 19
Boxford,	423 13
Carlisle,	777 41
Carver (two contracts),	4,079 19
Charlemont,	684 32
Chesterfield,	222 12
Cummington,	53 55
Easton,	4,442 34
Essex,	111 06
Florida,	721 89
Georgetown,	877 36
Granville (two contracts),	999 52
Hampden,	555 29
Hawley,	333 17
Amount carried forward,	$18,903 04

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Amount brought forward,	$18,903 04
Heath,	999 52
Huntington,	163 08
Lanesborough,	499 76
Leverett,	610 82
Littleton,	1,999 05
Marblehead (two contracts),	4,492 80
Maynard,	1,665 87
Medway,	930 67
Mendon,	1,110 58
Middlefield (two contracts),	874 69
Millis,	1,132 79
Monterey,	277 64
Montgomery,	235 44
Mount Washington (two contracts),	694 11
New Marlborough,	998 06
New Salem,	1,448 20
Norton,	1,110 59
Otis,	97 92
Oxford,	888 46
Pelham,	997 30
Peru,	346 50
Petersham,	1,665 88
Plymouth,	489 69
Prescott,	666 35
Rowe,	610 82
Savoy,	94 02
Sheffield,	1,110 54
Sherborn,	666 35
Shutesbury,	666 35
Warwick,	1,658 11
Washington,	666 35
Wendell (two contracts),	1,443 77
	$50,215 12

GENERAL EXPENSES, DEC. 1, 1908, TO NOV. 30, 1909.

[Under Chapter 212, Acts of 1908.]

Travel of commissioners,	$5 25
Office and typewriter supplies,	2 00
Telephone, including tolls,	37 63
Repairs to steam road rollers,	5 65
	$50 53

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[Under Chapter 127, Acts of 1909.]

Salaries of commissioners,	$8,375 01
Travel of commissioners,	2,897 23
Salaries of clerical assistants and first and second engineers,	16,278 33
Rent of offices,	4,750 00
Printing and binding annual report,	1,013 81
Printing, including postal cards and envelopes,	896 06
Office and typewriter supplies,	594 64
Telephone, including tolls,	471 65
Postage,	1,425 06
Recording land takings and easements,	169 46
Advertising hearings,	52 31
Typewriter,	81 00
Repairs to steam road rollers,	3,649 73
Miscellaneous items, including express charges, car fares, telegrams and other minor office expenses,	654 52
	$41,308 81

Motor Vehicle Fees Fund.

[Under Chapter 580, Acts of 1907, and Chapter 642, Acts of 1908.]

Salaries of clerks and clerical assistants,	$19,778 12
Number of plates for registering automobiles,	7,626 50
Badges for professional chauffeurs,	949 30
Office and typewriter supplies,	750 31
Printing, including postal cards and envelopes,	5,385 38
Speed signs and sign boards,	359 80
Rent of offices,	2,040 00
Cartage and storage of number plates,	182 70
One multigraph,	314 58
Examination of professional chauffeurs, including salaries, expenses and mileage purchased,	9,857 48
Miscellaneous items, including express charges, telegrams, car fares, due stamps and other minor office expenses,	351 99
	$47,596 16

Expenses connected with Telephone and Telegraph Supervision.

[Under Chapter 9, Acts of 1909.]

Salaries of commissioners,	$4,425 01
Salaries of clerical assistants,	2,012 79
Printing,	992 15
Miscellaneous items,	103 42
	$7,533 37

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[Under Chapter 632, Acts of 1908, and Chapter 78, Resolves of 1909.]

Expenses in connection with an inventory and appraisal of the New England Telephone and Telegraph Company, . . $19,127 25

MISCELLANEOUS EXPENDITURES.

[Under Chapter 574, Acts of 1907.]

Expenditures for the laying out and construction, as a State highway, of Washington Street in the West Roxbury district of the city of Boston, ... $40,529 76

[Under Chapter 616, Acts of 1908.]

Expenditures for certain State highways in the county of Berkshire, town of Becket, ... $39,584 73

[Under Chapter 511, Acts of 1909.]

Expenditures for the improvement of a highway in the county of Berkshire, towns of Becket and Lee, ... $15,210 58

[Under Chapter 136, Resolves of 1909.]

Expenditures for the repair of the bridge over Parker River in the town of Newbury, and for an examination of certain other large bridges, ... $1,992 38

SUMMARY OF EXPENDITURES.

For construction, ...	$351,700 47
For road repair and maintenance, from revenue, . .	247,984 59
For road repair and maintenance (motor vehicle fees fund), .	154,131 01
For construction, under "small town" acts, . . .	50,215 12
For general expenses, under chapter 212, Acts of 1908, .	50 53
For general expenses, under chapter 127, Acts of 1909, .	41,308 81
For expenditures connected with automobile registration, .	47,596 16
For telephone and telegraph supervision, under chapter 9, Acts of 1909, ...	7,533 37
For expenditures under chapter 632, Acts of 1908, and chapter 78, Resolves of 1909, ...	19,127 25
For expenditures under chapter 574, Acts of 1907, . .	40,529 76
For expenditures under chapter 616, Acts of 1908, . .	39,584 73
For expenditures under chapter 511, Acts of 1909, . .	15,210 58
For expenditures under chapter 136, Resolves of 1909, .	1,992 38
	$1,016,964 76

HAROLD PARKER,
WM. D. SOHIER,
F. D. KEMP,
Massachusetts Highway Commission.

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APPENDIX A.

TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, TO DEC. 1, 1909.

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Abington,	1900-1-3,	Brockton line,	Easterly,	1.73	1.74
Abington,	1905-7,	Holbrook line,	Easterly,	1.64	1.64
Acton,[1]	1899-1900-1-2,	Concord line to Littleton line,	Northwesterly,	3.71	3.71
Acton (west),[2]	1901-7,	Boxborough line,	Southeasterly,	1.67	1.67
Acushnet,	1901-3,	Rochester line via Long Plain to Rochester line,	Westerly and northerly,	2.80	2.80
Acushnet,	1897,	1,500 feet from New Bedford line,	Northerly,	.61	.61
Adams (Maple Grove),	1897,	Cheshire line,	Northerly,	.57	.57
Adams (Orchard Street),	1908,	Cheshire line,	Northerly,	1.46	1.46
Agawam,	1903-4-6-7,	South end bridge at Connecticut River,	Southerly,	2.22	2.22
Agawam,	1909,	Southerly end of 1907 section,	Southerly,	.88	.88
Amesbury,	1899-1901-3-4,	Merrimac line,	Easterly,	2.24	2.24
Amesbury,	1906-7,	Salisbury line,	Westerly,	.77	.77
Amherst,	1901-4,	Hadley line,	Northeasterly,	.97	.97

[1] Exclusive of 1,100 feet at railroad crossing.

[2] Exclusive of 970 feet at railroad crossing.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles.)
		From —	Direction.	Length (Miles).	
Andover,	1895-6,	Lawrence line,	Southerly,	1.22	1.22
Andover,	1897-9-1900-2-3,	North Reading line,	Northerly,	2.98	2.98
Ashby,	1894-5-6-7-8-9,	Fitchburg line to Ashby post-office,	Northerly,	3.58	3.58
Ashfield,	1897-8,	One mile north of Ashfield post-office,	Northerly,	1.61	1.61
Ashland,	1903,	Southborough line,	Easterly,	1.47	1.47
Athol,	1895-6,	Orange line,	Easterly,	1.61	1.61
Athol,	1902-3,	Phillipston line,	Northwesterly,	1.49	1.49
Attleborough,	1900-1-3,	North Attleborough line,	Southwesterly,	2.66	2.66
Attleborough,	1909,	Norton line,	Southeasterly,	.74	.74
Auburn,	1895-6-7-8-9-1901-3-4,	Worcester line to Oxford line,	Southwesterly,	5.26	5.26
Barnstable (north),	1899-1902-7,	Sandwich line,	Southwesterly,	2.68	2.68
Barnstable (north),	1909,	Yarmouth line	Westerly,	1.91	1.25
Barnstable (south),	1897-1901,	Yarmouth line,	Westerly,	2.26	2.26
Barnstable (west),	1904,	Marston Mills,	Southerly,	1.48	1.48
Barre,	1897-9,	Ware River bridge to Barre Common,	Northwesterly,	2.89	2.89
Becket,	1902-4-5-6,	Chester line,	Westerly,	2.05	2.05
Becket,	1908,	Westerly end of 1906 section,	Westerly,	3.53	3.53
Bedford,	1897-1902,	Lexington line,	Northwesterly,	1.07	1.07
Bedford,	1903-6,	Carlisle bridge,	Southeasterly,	.57	.57

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Belchertown,	1900-1-2-7-8,	Near depot,	Westerly,	2.35	2.35
Bellingham,	1902-5,	From Blackstone line,	Northeasterly,	.55	.55
Bellingham,	1904-5-6,	Franklin line to Mendon line,	Westerly,	2.63	2.63
Berkley,	1906,	Lakeville line,	Northwesterly,	.77	.77
Beverly,	1895-7-8,	Wenham line,	Southerly,	2.01	2.01
Beverly,	1905-6,	Manchester line,	Southwesterly,	3.67	3.67
Billerica,	1908,	A point near the Common,	Southeasterly,	.58	.58
Blackstone,	1899-1900-2,	Uxbridge line,	Southeasterly,	1.74	1.74
Blackstone,	1909,	Southerly end of 1902 lay-out,	Southeasterly,	.81	-
Blackstone,	1905,	Bellingham line to Woonsocket line,	Southwesterly,	.06	.06
Boston,	1908,	Lagrange Street to Dedham line,	Southwesterly,	1.40	1.40
Bourne,	1897-8-1904,	Cohasset Narrows,	Easterly,	2.09	2.09
Bourne,[1]	1903-5-7,	Back River bridge,	Southerly,	2.42	2.42
Boxborough,	1897-9-1905-7,	Acton line,	Westerly,	3.31	3.31
Braintree,	1900-2,	Quincy line,	Southeasterly,	1.06	1.06
Brewster,	1895-6-7-1901,	Dennis line to Orleans line,	Easterly,	7.79	7.79
Brewster,	1908,	Orleans line to Chatham line,	Southerly,	.04	.04
Bridgewater,	1904-5-6-7-8,	Near Middleborough line,	Northerly and northwesterly,	3.47	3.47
Brimfield,	1897-9,	Monson line,	Southerly,	2.34	2.34
Brimfield,	1901-2,	Wales line,	Northerly,	1.63	1.63
Brockton,	1897-8-9,	Easton line,	Easterly,	1.87	1.87
Brockton,	1900,	Abington line,	Westerly,	.66	.66

[1] Exclusive of 275 feet at railroad.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Brockton,	1904,	West Bridgewater line,	Northerly,	.66	.66
Brookfield,	1902-3,	West Brookfield line,	Easterly,	.87	.87
Brookfield,	1905-7,	Spencer line,	Southwesterly,	.77	.77
Brookfield,	1897-8-1900-4,	Brookfield village,	Easterly,	2.24	2.24
Buckland,	1894-5-6-7-8-9-1900-3-7,	Shelburne Falls station,	Westerly and southerly,	4.29	4.29
Burlington,	1903-4-5-6,	Woburn line to Billerica line,	Northwesterly,	3.80	3.80
Canton,	1905-6-7-8,	Stoughton line,	Northerly,	3.23	3.23
Charlemont,	1897-8-9,	Deerfield River bridge,	Easterly,	.77	.77
Charlton,	1901-2,	Charlton Depot to Charlton City,	Southerly,	1.91	1.91
Charlton,	1905-6,	Near Charlton City,	Easterly,	.84	.84
Charlton,	1909,	Near Charlton City,	Southerly,	.29	.29
Charlton,	1907,	Oxford line,	Southwesterly,	.46	.46
Chatham,	1899-1901-2-5-6,	Depot Street to Harwich line,	Westerly,	4.03	4.03
Chatham,	1907,	Depot to Wading Place bridge, Harwich line,	Northwesterly,	3.13	3.13
Chelmsford,[1]	1898-9-1901-7,	Lowell line to North Chelmsford,	Westerly and northerly,	1.97	1.96
Chelmsford,	1903-4,	Lowell line toward Chelmsford Center,	Southwesterly,	1.27	1.27
Chelmsford,	1908,	Near Chelmsford village,	Southwesterly,	.98	.98
Chelsea,	1901-4,	Lewis Street,	Southwesterly,	.96	.96
Cheshire,	1899-1900-1-2,	Farnum's station, Boston & Albany Railroad,	Northeasterly,	2.60	2.60

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Chester,	1899-1900-1-2-4-5,	Becket line,	Easterly,	3.25	3.25
Chester,	1909,	Easterly end of 1905 section,	Easterly,	1.22	1.22
Chicopee,	1897-8-9,	Springfield line,	Northerly,	.92	.92
Chicopee,	1902-3-4-5-6-7,	Near Chicopee River bridge,	Northerly,	2.98	2.98
Chilmark,	1905-6-8,	Beetlebung Corner,	Northeasterly and southwesterly,	3.61	3.61
Chilmark,	1909,	Easterly end of 1908 section,	Northeasterly,	1.38	.25
Clarksburg,	1905-7,	North Adams line,	Northeasterly and northerly,	.97	.97
Clarksburg,	1909,	Red Mill bridge,	Northerly,	.11	.11
Cohasset,	1897-8-1900,	Near Hingham line,	Easterly,	1.73	1.73
Cohasset,	1902-03,	Beechwood Street to Scituate line,	Southerly,	.55	.55
Colrain,[2]	1898-1901-5,	Shelburne line,	Northerly,	2.13	2.13
Concord,	1897-8,	Lincoln line,	Northwesterly,	1.47	1.47
Concord,	1900-5-6,	Acton line,	Southeasterly,	2.13	2.13
Dalton,	1895-6-1903-4,	Pittsfield line,	Easterly,	2.55	2.55
Dartmouth,	1898-9-1900-1-3-5,	Near Westport line to New Bedford line,	Easterly,	4.53	4.53
Deerfield,	1894-5,	South Deerfield station to Sunderland bridge,	Southeasterly,	1.53	1.53
Deerfield,	1900-1-2-3,	Cheapside bridge,	Southerly,	1.43	1.43
Deerfield,	1904-5-6-7-8,	South Deerfield village,	Northerly,	2.48	2.48
Deerfield,	1909,	Northerly end of 1908 section,	Northerly,	.60	.60
Dennis (north),	1895-6-7-8,	Yarmouth line to Brewster line,	Northwesterly,	4.27	4.27
Dennis (south),	1900-1-2-4-6,	Bass River bridge to Harwich line,	Easterly,	3.22	3.22
Dighton (north),	1902-3,	Taunton line to Rehoboth line,	Southwesterly,	1.56	1.56

[1] Exclusive of 900 feet at railroad crossing.

[2] Exclusive of 2,000 feet at North River bridge.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length. (Miles).	
Dighton (south),	1905–6–8,	Three Mile River bridge,	Southwesterly,	1.22	1.22
Dighton,	1909,	Near Somerset line,	Northerly,	.79	–
Douglas,	1902–4,	Sutton line at Manchaug,	Southeasterly,	1.60	1.60
Douglas,	1905,	Main Street,	Southeasterly,	.54	.54
Dover,	1905–7,	Charles River bridge,	Westerly,	2.18	2.18
Dracut,	1905–6–7,	Near Lowell line on Methuen road,	Northeasterly,	1.83	1.83
Dudley,	1902–4–6–7,	1,400 feet from Webster line,	Westerly and southwesterly,	2.29	2.29
Duxbury,	1894–5–7–9–1903–5–8,	Marshfield line,	Southerly and southwesterly,	4.47	4.47
Duxbury,	1909,	Southerly end of 1908 section to Kingston line,	Southerly,	.69	.69
Eastham,	1903,	Wellfleet line,	Southerly,	.78	.78
Eastham,	1904–5–6,	Orleans line,	Northerly,	2.60	2.60
Eastham,	1909,	Connecting previous lay-outs,	– –	3.08	1.00
Easthampton,	1895–6,	Northampton line,	Southwesterly,	1.32	1.32
Easthampton,	1900–1,	Clark Street to foot of Mount Tom,	Southerly,	1.10	1.10
East Longmeadow,	1904–6,	East Longmeadow village,	Northwesterly,	1.05	1.05
Easton,	1900,	Brockton line,	Southwesterly,	.80	.80
Edgartown,	1897–9–1900–1–2–3,	Oak Bluffs line,	Southerly,	2.42	2.42
Erving,	1898–9–1900,	Town hall to Orange line,	Easterly,	2.04	2.04
Erving,	1907,	Millers Falls,	Easterly,	.67	.67

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Erving,	1909,	Easterly end of 1907 section,	Easterly,	.65	.65
Essex,	1902–3,	Essex River,	Easterly and westerly,	.35	.35
Fairhaven,	1894–5,	Mattapoisett line,	Westerly,	1.45	1.45
Falmouth,	1904,	Bourne line to Woods Hole,	Southerly,	11.64	11.64
Falmouth,	1905–6–7–8,	East Falmouth village,	Southeasterly and easterly,	1.78	1.78
Falmouth,	1909,	Easterly end of 1908 section,	Easterly,	1.10	.20
Fitchburg,	1894–5,	Westminster line,	Easterly,	.97	.97
Fitchburg,	1897,	Lunenburg line,	Westerly,	.61	.61
Fitchburg,	1900–1–3–4,	Ashby line,	Southerly,	2.56	2.56
Foxborough,	1901–2,	Mansfield line,	Northerly,	1.82	1.82
Foxborough,	1905–8,	Wrentham line,	Easterly and southeasterly,	1.70	1.70
Framingham,	1904–5,	Southborough line via Pleasant Street,	Southeasterly,	2.42	2.42
Franklin,[1]	1905–7,	Bellingham line,	Easterly,	1.38	1.38
Freetown,	1902–3,	New Bedford line to Lakeville line,	Northerly,	3.19	3.19
Freetown,[2]	1908,	Fall River line,	Northeasterly,	.68	.68
Gardner,	1897–8,	Templeton line,	Easterly,	2.37	2.37
Gardner,	1900–1,	Westminster line,	Northwesterly,	.98	.98
Gloucester,	1894–5–8–1905–6–7,	Manchester line to "cut" bridge,	Northeasterly and northerly,	3.46	3.46
Gloucester,	1907,	Rockport line,	Southerly,	.52	.52
Goshen,	1894–5–8,	Williamsburg line,	Northwesterly and northerly,	2.46	2.46
Grafton,	1897–9–1900–5,	Millbury line,	Southeasterly and southerly,	2.05	2.05
Granby,	1894–1902–5–6–8,	South Hadley line,	Easterly,	2.26	2.26

[1] Exclusive of 132 feet at railroad crossing.

[2] Exclusive of 100 feet at railroad crossing.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Great Barrington,	1894-6-7-1902,	Housatonic River bridge,	Easterly,	3.41	3.41
Greenfield,[1]	1899-1900-2,	Washington Street,	Easterly,	1.33	1.33
Greenfield,	1903-6-7-8,	Silver Street,	Northeasterly,	1.92	1.92
Greenfield,	1905,	One mile from town section on Colrain road,	Northerly,	.26	.26
Groton,	1901-2-7,	Pepperell line,	Southeasterly and southerly,	1.41	1.41
Groveland,	1900-1-2-5,	Merrimac River bridge to West Newbury line,	Northeasterly,	1.73	1.73
Hadley,	1894-1904,	Connecticut River to Amherst line,	Easterly,	4.69	4.69
Hamilton,	1899-1900,	Ipswich line,	Southwesterly,	.44	.44
Hamilton,	1909,	Wenham line,	Northeasterly,	.71	.60
Hancock,	1895-6-8-9,	Pittsfield line to New York line,	Westerly,	3.23	3.23
Hanover,	1906-8,	Pembroke line,	Northwesterly,	1.85	1.85
Hardwick,	1897-1901,	New Braintree line,	Northerly,	.82	.82
Harvard,	1900-1905,	Woodchuck Hill to Harvard Common,	Westerly,	1.58	1.58
Harwich,	1899-1900-1-2-3,	Dennis line to Chatham line,	Easterly,	5.10	5.10
Harwich,	1908,	Chatham line to Brewster line,	Northerly,	1.38	1.38
Hatfield,	1901-6-8,	Northampton line,	Northerly,	1.17	1.17
Hatfield,	1909,	Northerly end 1908 section,	Northerly,	.84	.70
Haverhill,	1899,	River and Maxwell streets to Methuen line,	Westerly,	2.63	2.63
Haverhill,	1902-7,	Kenoza road,	Northeasterly and easterly,	1.93	.91

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Hingham,	1894,	Weymouth Back River,	Easterly,	1.42	1.42
Hingham,	1896–7,	Near Cohasset line,	Westerly,	1.23	1.23
Hinsdale,	1901–2–3,	Dalton line,	Southeasterly,	1.02	1.02
Holbrook,	1894–6–1902,	Weymouth line,	Northwesterly,	1.75	1.75
Holden,	1894–5–6–7,	Jefferson village,	Southeasterly,	2.70	2.70
Holden,	1898–1900–1908,	Worcester line,	Northerly,	1.51	1.51
Holden,	1905,	Rutland line,	Easterly,	.52	.52
Holliston,	1906–7,	Milford line,	Northeasterly,	1.46	1.46
Hudson,	1906–7,	Brigham Street via Washington Street to Marlborough line.	Southerly,	1.16	1.16
Huntington,	1895–6,	Russell line,	Westerly,	1.01	1.01
Huntington,	1903–6,	Near railroad crossing,	Northwesterly,	.99	.99
Huntington,	1909,	Northwesterly end of 1906 section,	Northwesterly,	.26	.26
Ipswich,	1907–8,	Ipswich Common,	Southerly,	1.34	1.34
Ipswich,	1909,	Southerly end of 1908 lay-out,	Southerly,	.80	.80
Kingston,	1905–6,	Duxbury line,	Southerly,	1.02	1.02
Lakeville,	1901–2,	One half mile from Middleborough line,	Southwesterly,	3.57	3.57
Lancaster,	1902,	Clinton line to Sterling line,	Northerly,	1.25	1.25
Lawrence,	1896,	Methuen line,	Southerly,	.27	.27
Lee,	1894–5–6–1908,	Lee Park to Strickland House,	Easterly,	2.44	2.13
Lee,	1909,	Easterly end of 1908 lay-out,	Easterly,	.42	.30
Lee,	1900,	Lenox line to Lee village,	Southerly,	1.26	1.26
Lee,	1906,	Lenox line, Stockbridge Street.	Southerly,	1.02	1.02

[1] Exclusive of 500 feet at Cheapside bridge and 1,100 feet at railroad crossing.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Lee (south),	1906,	Stockbridge line, Main Street,	Easterly,	.90	.90
Leicester,[1]	1894-5-6-8-9,	Worcester line to Spencer line,	Westerly,	4.87	4.87
Lenox,	1899-1900-1,	Lee line to Lenox village,	Northerly,	2.28	2.28
Lenox,	1904-5,	Lenox village to Pittsfield line,	Northerly,	3.18	3.18
Lenox,	1906,	Lee line via Kemble Street,	Northerly,	2.20	2.20
Leominster,	1901-2,	Sterling line,	Northerly,	2.18	2.18
Lexington,	1895-6-7-8,	Massachusetts Avenue,	Westerly,	3.45	3.45
Lexington,	1900,	Bedford line,	Southeasterly,	.85	.85
Lincoln,	1895-6-7,	Concord line to Lexington line,	Southeasterly,	2.06	2.06
Littleton,	1902-3-4,	Acton line via Great road,	Northerly,	2.13	2.13
Littleton,	1908,	Northerly end of 1904 section,	Northerly,	.52	.52
Littleton,	1902,	Westford line to Great road,	Southwesterly,	.32	.32
Lowell (boulevard),	1897,	Tyngsborough line,	Easterly,	.97	.97
Lowell (Princeton Street),	1897-8,	Chelmsford line,	Easterly,	1.34	1.34
Lunenburg,	1898-9-1900-1-3,	Fitchburg line,	Easterly,	2.72	2.72
Lynn,	1899,	Saugus River to Sea Street,	Northeasterly,	.90	.90
Mansfield,	1901,	Foxborough line,	Southeasterly,	.72	.72
Mansfield,	1906,	Norton line,	Northerly,	.49	.49
Marion,	1894-5-1901,	Marion village to Wareham line,	Northeasterly,	1.59	1.59

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Marion,	1897–9–1901–2,	Marion village to Mattapoisett line,	Westerly,	1.84	1.84
Marion,	1903,	Marion village to Rochester line,	Northwesterly,	2.14	2.14
Marlborough (east),	1897–1902–3–4,	Sudbury line to Hosmer Street,	Westerly,	3.10	3.10
Marlborough (west),	1897–9–1900–1,	Northborough line,	Easterly,	2.41	2.41
Marlborough,	1908,	Hudson line,	Southerly,	.81	.81
Marshfield,	1894–6–8–9–1901–2–4–7,	Duxbury line,	Northerly,	4.60	4.60
Marshfield,	1909,	Near North River bridge,	Southerly,	.74	.74
Mattapoisett,	1894–5,	Fairhaven line,	Easterly,	1.16	1.16
Mattapoisett,	1900–1–3,	Marion line to Ned Point Light road,	Westerly,	2.05	2.05
Medford,	1907,	Somerville line via Mystic Avenue,	Northerly,	.86	.86
Melrose,	1906,	Saugus line at Upham Street,	Westerly,	.39	.39
Merrimac,	1897–8–9,	Near Haverhill line,	Northeasterly,	.92	.92
Merrimac,	1901–3,	Amesbury line,	Southwesterly,	1.20	1.20
Methuen,	1896–1900–1–2–6–7–8,	Lawrence line to Haverhill line,	Northeasterly,	3.69	3.69
Middleborough,	1894–5–6–7–8–1902–3,	Nemasket River to Rochester line,	Southeasterly,	8.98	8.98
Middleborough,	1906–7–8,	Bridgewater line to railroad bridge on Everett Street.	Southerly,	3.46	3.46
Milford,	1904–5,	Highland Avenue via West Street to Hopedale line.	Northeasterly,	1.75	1.75
Milford,	1909,	Holliston line,	Southwesterly,	.62	.62
Millbury,	1902,	Worcester line to Grafton line,	Southeasterly,	.78	.78
Millbury,	1900–3–4,	Worcester line,	Southerly,	1.61	1.61
Millbury,	1906,	Sutton line,	Northeasterly,	.59	.59
Milton,	1899–1900,	Neponset River at Granite bridge,	Southeasterly,	.87	.87

[4] Exclusive of portion through Leicester Center,

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Monson,	1894,	Railroad bridge toward Palmer,	Northerly,	.93	.93
Monson,	1901–5,	Palmer line to Brimfield line,	Southeasterly,	.39	.39
Monson,	1908,	Palmer line,	Easterly and westerly,	.29	.29
Montague,	1898–9–1904–6,	Third Street near L Street, Turners Falls,	Easterly,	3.23	3.23
Montague,	1905,	Connecticut River bridge to Greenfield,	Northeasterly,	1.07	1.07
Montague,	1909,	Northerly end of 1905 section,	Northeasterly,	.60	.60
Nantucket,	1894–5–6–7–9–1900–1–3,	First mile stone to Siasconset,	Easterly,	6.48	6.48
Natick,	1901,	Wellesley line to Union Square,	Westerly,	1.14	1.14
Natick,	1903,	Sherborn line to Cemetery Street,	Easterly,	2.06	2.06
Needham,	1901,	Newton line,	Westerly,	1.00	1.00
Needham,	1905,	Charles River bridge, Chestnut Street,	Northerly,	1.04	1.04
New Braintree,	1897,	Hardwick line to Ware line,	Southerly,	.17	.17
New Braintree,	1903,	New Braintree village,	Northerly,	.22	.22
Newbury,	1899–1900–1–2–4–5–6,	Newburyport line via Oldtown to Rowley line,	Southerly and southwesterly,	4.23	4.23
Newburyport,	1896–7–8,	West Newbury line,	Easterly,	1.75	1.75
Newton,	1901,	Needham line,	Easterly,	1.03	1.03
Norfolk,	1895,	Norfolk line to Wrentham line,	Southwesterly,	1.45	1.45
North Adams,	1894–6–7,	Williamstown line,	Easterly,	1.69	1.69
North Adams,	1900–1–2–3,	Boston & Maine Railroad bridge to Adams line,	Southerly,	2.32	2.32

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North Andover,	1900–2–4,	Lawrence line,	Southeasterly,	1.90	1.90
North Andover,	1907,	Junction of Pleasant, Park and Court streets,	Southwesterly,	.24	.24
North Andover,	1907,	Junction of Sutton and Clark streets to junction of Osgood and Park streets.	–	.22	.22
Northampton,	1894,	Hadley bridge,	Southwesterly,	.56	.56
Northampton,	1897–8–9–1900–5,	Easthampton line,	Northerly,	1.47	1.47
Northampton,	1905–6,	Reservoir road, Smith's Ferry,	Northerly,	1.90	1.90
North Attleborough,	1894–5–6–7–9,	Bruce Avenue to Attleborough line,	Southwesterly,	3.60	3.60
Northborough (east),	1897–8,	Marlborough line,	Southwesterly,	1.33	1.33
Northborough (west),	1900–2–4,	Shrewsbury line,	Easterly,	2.19	2.19
Northborough (south),	1897,	Westborough line,	Northwesterly,	.42	.42
North Brookfield,	1905–6–7–8,	Junction of Ward and Gilbert streets,	Southerly,	1.82	1.82
Northfield,	1901–2,	Near Mill Brook,	Southerly,	1.16	1.16
North Reading,[1]	1897–8–1901–3,	Andover line to Reading line,	Southerly,	2.31	2.31
Norton,	1903,	Village to near railroad station,	Easterly,	.72	.72
Norton,	1906,	Mansfield line,	Southerly,	.50	.50
Norton,	1908,	Attleborough line near Chartley village,	Easterly,	.66	.66
Norton,	1909,	Easterly end of 1908 section,	Easterly,	.13	.13
Norwood,	1897–9,	Walpole line,	Northerly,	1.03	1.03
Norwood,	1895–6,	Westwood line,	Southerly,	1.02	1.02
Oak Bluffs,	1894–5–6,	Sengekontacket bridge,	Northerly,	2.37	2.37
Orange,	1894–5–7,	Athol line,	Westerly,	2.18	2.18
Orange,	1900–1–3–4–5,	Erving line,	Easterly,	2.61	2.61

[1] Exclusive of 1,200 feet at railroad crossing.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles.)
		From —	Direction.	Length (Miles).	
Orleans,	1900-1-4,	Brewster line to Eastham line,	Northeasterly,	1.98	1.98
Orleans,[1]	1903-4-5,	One and one half miles from Shattuck's corner to Brewster line.	Southeasterly and southerly,	2.72	2.72
Oxford,	1906-7,	Auburn line,	Southwesterly,	.85	.85
Oxford,[2]	1908,	Charlton line,	Easterly,	.63	.63
Oxford,	1909,	Easterly end of 1908 section,	Northeasterly,	.72	.72
Palmer,	1899-1900-1,	Tenneyville to Monson line,	Southeasterly,	2.52	2.52
Palmer,	1905-8,	Near Quaboag River bridge to Warren line,	Easterly,	1.73	1.73
Palmer,[3]	1906-8,	Wilbraham line,	Easterly,	5.29	5.29
Palmer,	1909,	Easterly end of 1908 section (west),	Easterly,	.38	-
Paxton,	1895-6-7-8-1902,	Worcester line,	Northwesterly,	3.60	3.60
Pembroke,	1905,	North River bridge at Hanover line,	Southerly,	.35	.35
Pepperell,	1907,	At Nashua River bridge,	Northwesterly,	.05	-
Phillipston,	1897-8-1902-4,	Athol line,	Easterly,	1.95	1.95
Phillipston,	1909,	End of old section to Templeton line,	Northeasterly,	.83	.60
Pittsfield,	1894-8-1901-2,	Hancock line,	Easterly,	2.38	2.38
Pittsfield,	1909,	Woodleigh Avenue,	Westerly,	.67	.50
Pittsfield,	1897-1906-7,	Dalton line,	Southwesterly,	2.46	2.46
Pittsfield,	1904-5,	South Mountain road to Lenox line,	Southerly,	1.58	1.58
Plainville,	1894-5,	North Attleborough line to Wrentham line,	Northerly,	1.81	1.81

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Plymouth,	1894-5-6-7-8-1902-4,	Manomet village,	Northerly,	5.05	5.05
Plymouth,	1907,	Manomet village,	Southerly,	.88	.88
Princeton,	1897-1900-2-3,	Princeton depot,	Easterly,	2.23	2.23
Provincetown,	1901-3,	Truro line to Allerton Street,	Westerly,	1.10	1.10
Quincy,	1899,	Chubbuck Street to Fore River bridge,	Southeasterly,	.49	.49
Quincy,	1902,	Braintree line,	Northerly,	.57	.53
Quincy,	1909,	Westerly end of 1902 section,	Northwesterly,	.38	.-
Quincy,	1904,	Randolph line to Milton line,	Northerly,	1.23	1.23
Randolph,	1902-3,	Quincy line,	Southeasterly,	1.38	1.38
Randolph,	1909,	End of 1903 section,	Southeasterly,	.52	.52
Raynham,	1901-2-3,	Taunton line to Raynham village,	Northeasterly,	1.48	1.48
Reading,	1899-1900,	Stoneham line,	Northerly,	1.07	1.07
Reading,	1902-3,	North Reading line,	Southerly,	2.67	2.67
Rehoboth,	1895-6-9-1903-5-6-7-8,	Seekonk line,	Easterly,	6.03	6.03
Revere,	1897-8,	Boston line,	Northeasterly,	.58	.58
Revere,	1899,	Saugus line,	Southwesterly,	.67	.67
Richmond,	1897-8-9-1901-2-3-4-5-6-7,	Boston & Albany Railroad station to Pittsfield line.	Northerly,	4.01	4.01
Rochester,	1903,	Marion line to Acushnet line,	Westerly,	5.27	5.27
Rochester,	1909,	Middleborough line to Wareham line,	Southeasterly,	.90	.65
Rockland,	1902-5-6,	Abington line to Hanover line,	Easterly,	2.35	2.35
Rockport,	1902-6,	Gloucester line,	Northerly,	.94	.94
Rowley,	1905-7,	Newbury line,	Southwesterly,	1.21	1.21

[1] Exclusive of 100 feet at bridge.

[2] Exclusive of 100 feet between stations 126+50 and 127+50.

[3] Exclusive of 1,500 feet in Monson.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles.)
		From —	Direction.	Length (Miles).	
Rowley,	1908-9,	End of 1907 section,	Southwesterly,	1.68	1.68
Russell,	1894-5-6-7-8-9,	Westfield line to Huntington line,	Northeasterly,	6.66	6.66
Rutland,	1904,	Holden line,	Northwesterly,	1.16	1.16
Salem,	1901,	Swampscott line,	Northerly,	.13	.13
Salem,	1909,	End of 1901 section,	Northeasterly,	1.27	1.27
Salisbury,	1904-5,	Town Creek,	Northerly and southerly,	1.45	1.45
Sandwich,	1897-8-1900-2,	Barnstable line,	Westerly,	2.83	2.83
Saugus,	1899,	Fox Hill bridge to Revere line,	Southerly,	1.60	1.60
Saugus,	1906,	Melrose line,	Southeasterly,	.19	.19
Scituate,	1894-5-1900-3-6-8,	Cohasset line,	Southerly,	4.17	4.17
Scituate,	1909,	End of 1908 section,	Southerly,	.51	.51
Seekonk,	1900-1-2-4,	Rehoboth line to Rhode Island line,	Westerly,	2.76	2.76
Sharon,	1908,	Foxborough line,	Northeasterly,	.64	.64
Shelburne,	1894-5-6,	Bridge Street to Colrain line,	Northeasterly,	2.16	2.16
Shrewsbury,	1895-6-7-8-9-1900-4,	Worcester line to Northborough line,	Northeasterly,	4.86	4.86
Somerset,	1895-6-7-9-1900-1-2,	Slade's Ferry bridge,	Northerly,	4.50	4.50
Somerset,	1903-4-9,	Slade's Ferry bridge to Swansea line,	Northwesterly,	2.40	2.40
Somerset,	1909,	Slade's Ferry bridge to Brayton Avenue,	Northerly,	.22	.10
Somerville,	1908,	Medford line via Mystic Avenue,	Southeasterly,	1.16	1.16

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Southampton,	1905,	Easthampton line,	Southwesterly,	.66	.66
Southampton,	1909,	End of 1905 section,	Southerly,	.05	-
Southborough,	1902–5,	Westborough line,	Easterly,	1.89	1.89
Southborough,	1907,	Ashland line,	Westerly,	.65	.65
Southborough,	1909,	Framingham line,	Southwesterly,	1.14	.75
Southbridge,	1902,	Charlton line,	Southwesterly,	.91	.91
Southbridge,	1907,	Sturbridge line,	Easterly,	.45	.45
South Hadley,	1895–7–8–9–1900,	Granby line to South Hadley Falls,	Southwesterly,	2.42	2.42
South Hadley,	1903–4,	South Hadley to South Hadley Falls,	Southerly,	2.71	2.71
South Hadley,	1909,	End of 1904 lay-out,	Northerly,	.62	.62
Spencer,	1897–1900–1,	Leicester line,	Westerly,	1.60	1.60
Spencer,[1,2]	1906,	Brookfield line,	Easterly,	.84	.84
Sterling,	1897–8,	Near town hall,	Southwesterly,	1.29	1.29
Sterling,	1905–7,	Lancaster line,	Westerly,	1.23	1.23
Sterling,	1909,	End of 1907 section,	Southwesterly,	.61	.61
Sterling,	1906–7,	Leominster line,	Southerly,	.55	.55
Stockbridge,	1905,	Lee line at South Lee,	Easterly,	.55	.55
Stockbridge,	1909,	End of 1905 section,	Westerly,	.52	.52
Stockbridge,	1906,	Lee line at East Street,	Southwesterly,	2.24	2.24
Stoneham,	1897–8,	South Street,	Northerly,	.57	.57
Stoneham,	1900–1,	Reading line,	Southerly,	1.01	1.01
Stoughton,	1902–3,	Canton line to Lincoln Street,	Southerly,	1.16	1.16

[1] Exclusive of 178 feet at Seven Mile River.

[2] Hassam pavement.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Stoughton,[1]	1904-5,	Easton line to Walnut Street,	Northerly,	2.14	2.14
Sturbridge,	1897-1903-4-7,	Southbridge line,	Northwesterly,	1.73	1.73
Sturbridge,	1909,	End of 1904 section,	Northwesterly,	.63	.63
Sudbury,	1897-8-1900-1-2-3,	Marlborough line to Wayland line,	Easterly,	5.11	5.11
Sunderland,	1897-1903-4-5-7,	Connecticut River bridge,	Southeasterly,	1.39	1.39
Sunderland,	1909,	End of 1907 section,	Southerly,	.17	.17
Sutton,	1899-1901-2,	Millbury line,	Southerly,	1.46	1.46
Sutton,	1903-4,	Douglas line at Manchaug,	Northerly,	.82	.82
Swampscott,	1897-1900-1,	Salem line to Burrell Street,	Southwesterly,	1.49	1.49
Swansea,	1903-6,	Somerset line,	Northwesterly,	1.75	1.75
Swansea,	1909,	End of 1906 section,	Northwesterly,	.89	.89
Swansea,	1903-7,	Myles River bridge,	Southeasterly and northwesterly,	1.93	1.93
Taunton,	1895-6-8-9-1900-1,	Dighton line on Winthrop Street,	Easterly,	2.94	2.94
Taunton,	1905-6,	Three Mile River bridge,	Northeasterly,	1.07	1.07
Taunton,	1907,	Railroad tracks on County Street,	Southeasterly,	.66	.66
Templeton,	1899-1901-2-3,	Gardner line at Otter River,	Westerly,	2.00	2.00
Templeton,	1905-6-7-8,	Junction of Main and Maple streets,	Southwesterly,	2.79	2.79
Templeton,	1909,	End of 1908 section to Phillipston line,	Southwesterly,	.90	.70
Tewksbury,	1900-1-2-3-4-5-6,	Lowell line to Wilmington line,	Southeasterly,	6.57	6.57

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Tisbury,	1894,	Vineyard Haven to West Tisbury line,	Southwesterly,	1.93	1.93
Townsend,	1896-7-8-9-1900-1,	Groton line,	Northwesterly,	4.69	4.69
Townsend,[2]	1907,	West Townsend village,	Westerly,	.74	.74
Truro,	1895-6,	Wellfleet line via Kelley's Corner,	Northerly,	3.16	3.16
Tyngsborough,	1895-6,	Tyngsborough bridge to Lowell line,	Southeasterly,	2.95	2.95
Tyngsborough,	1909,	New Hampshire line,	Southerly,	1.87	1.87
Uxbridge,	1897-8-1901-3,	Blackstone line,	Northwesterly,	2.18	2.18
Uxbridge,	1909,	Blackstone River,	Northwesterly,	.58	.58
Wales,	1901,	Brimfield line,	Southwesterly,	1.04	1.04
Walpole (south),	1894-5-7-1900,	Norfolk line,	Northerly,	2.60	2.60
Walpole (north),	1897-8-1900,	Norwood line,	Southerly,	1.94	1.94
Ware,	1897-9-1900-3,	New Braintree line,	Southerly,	2.28	2.28
Ware,	1908,	Junction of Palmer and Belchertown roads,	Northeasterly,	.63	.63
Wareham,	1896-1901,	Weweantit River bridge, Marion line,	Northeasterly,	.71	.71
Wareham,	1906-7,	Near High Street on Marion road,	Southwesterly,	1.21	1.21
Wareham,	1898-1901,	Cohasset Narrows bridge,	Westerly,	1.82	1.82
Wareham,	1905-6-7-8,	Parker's Mills,	Northwesterly and northerly,	3.66	3.66
Wareham,	1908,	Near Tremont village,	Northerly,	.21	.21
Wareham,	1909,	Rochester line,	Southeasterly,	.66	.50
Warren,	1896-7-8,	Warren to West Warren,	Easterly,	1.89	1.89
Warren,	1907-8,	Palmer line,	Easterly,	.79	.79
Warren,	1899-1900-1,	Warren to West Brookfield line,	Easterly,	1.41	1.41

[1] Exclusive of 250 feet at railroad bridge.

[2] Exclusive of 350 feet at Pearl Hill Brook.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Watertown,	1895-6,	Waltham line,	Easterly,	.85	.85
Wayland,[1]	1897-1900-3,	Weston line to Sudbury line,	Westerly,	2.58	2.58
Webster,	1908,	Junction of Lake Street and Thompson road,	Southeasterly,	.65	.65
Wellesley,	1901,	Natick line to Blossom Street,	Easterly,	1.18	1.18
Wellfleet,	1903-4-5-7,	Eastham line,	Northerly,	4.65	4.65
Wenham,	1897-1901-3,	Beverly line to Hamilton line,	Northerly,	1.76	1.76
Westborough,	1897,	Northborough line,	Southeasterly,	.72	.72
Westborough,	1903-6,	Southborough line,	Southwesterly,	2.28	2.28
West Boylston,	1897-8,	Worcester line,	Northerly,	1.55	1.55
West Bridgewater,	1900-1-2-4,	Brockton line to Bridgewater line,	Southerly,	3.16	3.16
West Brookfield,	1899,	Ware line to Ware line,	Southwesterly,	.15	.15
West Brookfield,	1899-1900-1,	Brookfield line,	Northwesterly,	1.51	1.51
West Brookfield,	1905,	Warren line,	Easterly,	1.01	1.01
Westfield,	1894-6-8-9,	West Springfield line,	Westerly,	2.22	2.22
Westfield,	1898-9-1900-1-2,	Russell line,	Easterly,	3.59	3.59
Westford,	1902-3,	Littleton line,	Northerly,	3.25	3.25
Westminster,	1894-5-6-7-8-9,	Fitchburg line,	Southwesterly,	3.00	3.00
Westminster,	1903,	Gardner line,	Easterly,	2.25	2.25
West Newbury,	1895-6-7,	Newburyport line,	Westerly,	2.24	2.24

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West Newbury,	1903-4-5-6,	Groveland line,	Northeasterly,	1.50	1.50
West Newbury,	1909,	Connecting previous lay-outs,	– –	1.37	1.37
Weston,	1898-9,	Wayland line to near Stony Brook,	Easterly,	3.15	3.15
Westport,	1894-6-7-8,	Dartmouth line,	Easterly,	4.25	4.25
West Springfield,	1895-6,	Top of Tatham Hill,	Easterly,	1.17	1.17
West Springfield,	1905-6,	Top of Tatham Hill,	Westerly,	.76	.76
West Tisbury,	1895-6-7-1904,	Tisbury line to Chilmark line,	Southwesterly,	5.35	5.35
Westwood,	1899-1900,	Norwood line to Dedham line,	Northerly,	1.05	1.05
Weymouth,	1894,	Holbrook line to Abington line,	Easterly,	.25	.25
Weymouth,	1895-6-7,	Fore River to Back River,	Easterly,	1.75	1.75
Weymouth,	1903-4-7-8,	Broad Street via Washington Street,	Southerly,	4.52	4.52
Whately,[2]	1899-1901-2-3-4-5-6,	Deerfield line to Hatfield line,	Southerly,	3.89	3.89
Whitman,	1894-5-6,	Brockton line,	Easterly,	1.70	1.70
Wilbraham,[3]	1894-5-6-1901-3-4,	Springfield line to Palmer line,	Easterly,	4.81	4.81
Williamsburg,	1896-8-1901-3,	Goshen line,	Southeasterly,	2.65	2.65
Williamstown,	1907,	River road,	– –	.13	.13
Williamstown,	1895-6-8-1903,	North Adams line,	Westerly,	1.95	1.95
Wilmington,	1907-8,	Tewksbury line,	Southeasterly and southerly,	1.18	1.18
Winchendon,	1907,	Glen Allen road via Maple Street,	Southwesterly,	1.35	1.35
Winchendon,	1907,	Millers River bridge,	Southwesterly,	.35	.35
Winchester,	1899-1900,	Arlington line to Woburn line,	Northeasterly,	1.96	1.96

[1] Exclusive of 1,500 feet at railroad crossing and Sudbury River.
[2] Exclusive of 375 feet at railroad crossing and 800 feet at railroad bridge.
[3] Exclusive of 1,763 feet at Wilbraham village.

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TABLE SHOWING THE HIGHWAYS LAID OUT OR CONTRACTED FOR BY THE COMMISSION, ETC.— *Concluded.*

TOWN OR CITY.	Year.	ROAD LAID OUT.			Length constructed (Miles).
		From —	Direction.	Length (Miles).	
Windsor,	1897–1902–3,	Cummington line,	Westerly,	.98	.98
Windsor,	1906–7,	Peru Street via Main road,	Southeasterly	.88	.88
Woburn,	1900–1–2,	Winchester line to Burlington line,	Northwesterly,	2.03	2.03
Worcester,	1896–7,	Paxton line,	Southeasterly,	1.35	1.35
Worcester,	1897–1903,	Holden line,	Southerly,	1.50	1.50
Worcester,	1900–5,	West Boylston line,	Southwesterly and southerly,	1.22	1.22
Wrentham,	1899–1900–1,	Plainville line,	Northerly,	2.23	2.23
Wrentham,	1897–8–1902,	Norfolk line,	Southeasterly,	1.86	1.86
Yarmouth (north),	1894–5–6,	Barnstable line to Dennis line,	Easterly,	3.71	3.71
Yarmouth (south),	1895–6–7,	Barnstable line to Bass River bridge,	Easterly,	5.09	5.09

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APPENDIX B.

TABLE SHOWING TOWNS AND CITIES IN WHICH WORK HAS BEEN DONE DURING THE YEAR 1909, AND THE RESIDENT ENGINEERS ON SUCH WORK, TOGETHER WITH DATES OF BEGINNING AND ENDING.

TOWN OR CITY.	County.	Lay-out.	Resident Engineer.	Date of Contract.	Date of Beginning, 1909.	Date of Ending, 1909.
Agawam,	Hampden,	1909,	E. S. Bingham,	Aug. 10, 1909,	Sept. 8,	Nov. 20
Andover,	Essex,	Surfacing,	H. C. Poore,	– – –	July 6,	Sept. 8
Ashby,	Middlesex,	Surfacing,	R. A. Vesper,	May 18, 1909,	June 8,	July 16
Athol,	Worcester,	Bridge,	R. A. Vesper,	Oct. 20, 1909,	Nov. 5,	Dec. 31
Attleborough,	Bristol,	1909,	W. M. Stodder,	May 18, 1909,	June 1,	July 27
Auburn,	Worcester,	Surfacing,	L. T. C. Loring,	June 16, 1909,	July 23,	Sept. 16
Barnstable,	Barnstable,	1909,	W. P. Hammersley,	July 27, 1909,	Sept. 24,	Dec. 31
Becket,	Berkshire,	1909,	G. A. Curtis,	Aug. 17, 1909,	Aug. 19,	Dec. 4
Becket,	Berkshire,	1908,	G. A. Curtis,	Oct. 13, 1908,	April 26,	Oct. 23
Billerica,	Middlesex,	1908,	W. N. Chittenden,	Sept. 29, 1908,	June 10,	June 21
Billerica,	Middlesex,	1908,	P. H. Everett,	Sept. 29, 1908,	April 13,	June 4
Boston,	Suffolk,	1908,	E. M. Stevens,	May 12, 1908,	May 18,	June 21
Boston,	Suffolk,	1908,	E. J. Nichols,	May 12, 1908,	May 18,	June 21
Boston,	Suffolk,	1908,	G. N. Willis,	May 12, 1908,	May 18,	June 21
Bourne,	Barnstable,	Surfacing,	W. P. Hammersley,	– – –	Aug. 26,	Sept. 18
Brewster,	Barnstable,	Surfacing,	W. P. Hammersley,	Aug. 25, 1908,	Jan. 1,	Feb. 9
Canton,	Norfolk,	Surfacing,	C. S. Tinkham,	– – –	Aug. 23,	Oct. 14
Canton,	Norfolk,	Surfacing,	H. C. Holden,	– – –	Aug. 15,	Oct. 14
Charlton,	Worcester,	1909,	L. T. C. Loring,	Aug. 17, 1909,	Nov. 1,	Dec. 24
Chester,	Hampden,	1909,	C. H. Lovejoy,	June 29, 1909,	July 13,	Oct. 5
Chester,	Hampden,	1909,	J. F. Haley,	June 29, 1909,	July 13,	Oct. 5

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TABLE SHOWING TOWNS AND CITIES IN WHICH WORK HAS BEEN DONE, ETC. — *Continued.*

TOWN OR CITY.	County.	Lay-out.	Resident Engineer.	Date of Contract.	Date of Beginning, 1909.	Date of Ending, 1909.
Chilmark,	Dukes,	1909,	A. J. C. Rayner,	Oct. 27, 1909,	Nov. 11,	Dec. 31
Clarksburg,	Berkshire,	1909,	G. R. Brown,	June 1, 1909,	June 21,	Aug. 28
Concord,	Middlesex,	Surfacing,	E. S. Clark,	June 16, 1909,	July 27,	Aug. 26
Dartmouth,	Bristol,	Surfacing,	W. M. Stodder,	June 1, 1909,	Aug. 4,	Sept. 18
Deerfield,	Franklin,	1909,	W. G. Burns,	June 16, 1909,	June 25,	Sept. 7
Dighton,	Bristol,	1908,	W. M. Stodder,	Oct. 13, 1908,	April 16,	May 15
Duxbury,	Plymouth,	1909,	W. G. Addis,	May 18, 1909,	July 13,	Sept. 10
Eastham,	Barnstable,	1909,	W. P. Hammersley,	July 30, 1909,	Aug. 23,	Dec. 15
Edgartown,	Dukes,	Surfacing,	A. J. C. Rayner,	June 1, 1909,	June 21,	Sept. 1
Erving,	Franklin,	1909,	W. G. Burns,	May 12, 1909,	June 1,	Aug. 17
Essex,	Essex,	Surfacing,	H. C. Poore,	— — —	May 18,	June 17
Falmouth,	Barnstable,	1909,	W. P. Hammersley,	Aug. 24, 1909,	Oct. 29,	Dec. 11
Foxborough,	Norfolk,	1908,	W. M. Stodder,	Oct. 14, 1908,	April 7,	June 19
Gardner,	Worcester,	Surfacing,	H. C. Poore,	— — —	Sept. 1,	Sept. 14
Gloucester,	Essex,	Surfacing,	C. L. Brown,	— — —	May 15,	June 29
Grafton,	Worcester,	Surfacing,	L. T. C. Loring,	June 1, 1909,	June 16,	July 26
Granby,	Hampshire,	Surfacing,	R. C. Heath,	June 16, 1909,	June 25,	Aug. 24
Hamilton,	Essex,	1909,	G. N. Willis,	July 14, 1909,	Aug. 16,	Dec. 4
Harwich,	Barnstable,	1908,	W. P. Hammersley,	Aug. 25, 1908,	Jan. 1,	Feb. 9
Hatfield,	Hampshire,	1909,	E. S. Bingham,	Sept. 22, 1909,	Oct. 14,	Dec. 9
Haverhill,	Essex,	1907,	E. M. Stevens,	July 20, 1909,	Oct. 7,	Oct. 16
Haverhill,	Essex,	1907,	C. L. Brown,	July 20, 1909,	Aug. 4,	Oct. 9
Haverhill,	Essex,	1907,	A. F. Arnold,	July 20, 1909,	Oct. 14,	Dec. 24
Hingham,	Norfolk,	Surfacing,	H. C. Holden,	— — —	Aug. 19,	Sept. 25
Holden,	Worcester,	Surfacing,	L. T. C. Loring,	May 25, 1909,	June 17,	Oct. 21
Holden,	Worcester,	1908,	L. T. C. Loring,	Sept. 23, 1908,	April 7,	May 1
Huntington,	Hampshire,	1909,	C. H. Lovejoy,	June 29, 1909,	July 13,	Oct. 5
Huntington,	Hampshire,	1909,	J. F. Haley,	June 29, 1909,	July 13,	Oct. 5
Ipswich,	Essex,	1909,	F. H. Morris,	May 18, 1909,	May 27,	Aug. 10
Lee,	Berkshire,	Surfacing,	F. D. Sabin,	May 25, 1909,	June 9,	Sept. 11
Lee,	Berkshire,	1908–9,	F. D. Sabin,	Sept. 22, 1908,	Oct. 5,	Nov. 27
Leicester,	Worcester,	Surfacing,	A. D. Dadley,	Aug. 3, 1909,	Sept. 9,	Oct. 4

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Leicester,	Worcester,	Surfacing,	C. H. Norton,	Aug. 3, 1909,	Oct. 6,	Nov. 13
Leicester,	Worcester,	Surfacing,	L. T. C. Loring,	Aug. 3, 1909,	Nov. 15,	Dec. 18
Lenox,	Berkshire,	Surfacing,	D. H. Dickinson,	June 1, 1909,	July 8,	Sept. 2
Lincoln,	Middlesex,	Surfacing,	E. S. Clark,	June 16, 1909,	July 27,	Aug. 26
Marion,	Plymouth,	Surfacing,	H. O. Parker,	June 8, 1909,	Aug. 13,	Oct. 13
Marshfield,	Plymouth,	1909,	W. G. Addis,	June 1, 1909,	July 1,	Oct. 23
Marlborough,	Middlesex,	1908,	A. F. Arnold,	Sept. 15, 1908,	Aug. 2,	Oct. 13
Mattapoisett,	Plymouth,	Surfacing,	H. O. Parker,	June 8, 1909,	July 12,	Aug. 2
Middleborough,	Plymouth,	Surfacing,	H. C. Holden,	– – –	Aug. 25,	Sept. 4
Milford,	Worcester,	1909,	G. N. Willis,	April 20, 1909,	May 11,	July 17
Montague,	Franklin,	1909,	W. G. Burns,	Sept. 21, 1909,	Sept. 29,	Dec. 1
Nantucket,	Plymouth,	Surfacing,	C. S. Tinkham,	June 14, 1909,	July 8,	Sept. 30
Nantucket,	Plymouth,	Surfacing,	A. J. C. Rayner,	June 14, 1909,	July 8,	Sept. 30
Newbury,	Essex,	Bridge,	F. H. Morris,	Sept. 29, 1909,	Oct. 19,	Dec. 2
Newburyport,	Essex,	Surfacing,	E. M. Stevens,	June 22, 1909,	June 30,	Aug. 27
Norfolk,	Norfolk,	Surfacing,	F. H. Cunningham,	July 20, 1909,	Sept. 7,	Oct. 9
Northampton (east),	Hampshire,	Surfacing,	E. S. Bingham,	June 1, 1909,	June 16,	July 21
Norwood (south),	Norfolk,	Surfacing,	F. H. Cunningham,	July 21, 1909,	Aug. 9,	Oct. 9
Norwood (north),	Norfolk,	Oiling,	C. S. Tinkham,	– – –	Oct. 12,	Nov. 1
Norton,	Bristol,	1908,	W. M. Stodder,	Sept. 22, 1908,	April 27,	July 9
Oak Bluffs,	Dukes,	Surfacing,	A. J. C. Rayner,	June 1, 1909,	June 21,	Sept. 1
Orleans,	Barnstable,	Surfacing,	W. P. Hammersley,	Aug. 25, 1908,	Jan. 1,	Feb. 9
Orange,	Franklin,	Surfacing,	R. A. Vesper,	July 7, 1909,	Aug. 31,	Oct. 7
Oxford,	Worcester,	1909,	A. T. Edwards,	May 12, 1909,	Aug. 31,	Oct. 2
Oxford,	Worcester,	1909,	L. T. C. Loring,	May 12, 1909,	May 19,	Aug. 28
Oxford,	Worcester,	1908,	L. T. C. Loring,	Sept. 22, 1908,	April 14,	June 21
Palmer,	Hampden,	1909 (Bridge),	E. J. Nichols,	Aug. 24, 1909,	Sept. 1,	Dec. 31
Paxton,	Worcester,	Surfacing,	G. L. Lawrence, Jr.,	June 16, 1909,	Sept. 1,	Nov. 23
Paxton,	Worcester,	Surfacing,	A. T. Edwards,	June 16, 1909,	June 24,	Sept. 1
Phillipston,	Worcester,	1909,	R. A. Vesper,	June 22, 1909,	July 8,	Dec. 4
Pittsfield,	Berkshire,	Surfacing,	D. H. Dickinson,	June 1, 1909,	July 8,	Sept. 2
Pittsfield,	Berkshire,	1909,	D. H. Dickinson,	Aug. 3, 1909,	Aug. 31,	Dec. 4
Plainville,	Norfolk,	Surfacing,	C. S. Tinkham,	Aug. 31, 1909,	Sept. 18,	Nov. 13
Randolph,	Norfolk,	Oiling,	H. C. Holden,	– – –	Aug. 25,	Oct. 13
Randolph,	Norfolk,	1909,	C. S. Tinkham,	Sept. 21, 1909,	Oct. 4,	Nov. 13
Revere (west),	Suffolk,	Surfacing,	H. C. Poore,	Sept. 21, 1909,	Sept. 15,	Nov. 2
Rochester,	Plymouth,	1909,	H. O. Parker,	Aug. 10, 1909,	Aug. 31,	Dec. 18
Rowley,	Essex,	1909,	F. H. Morris,	May 4, 1909,	May 18,	Oct. 9
Russell,	Hampden,	Surfacing,	D. H. Dickinson,	May 25, 1909,	May 28,	June 30

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TABLE SHOWING TOWNS AND CITIES IN WHICH WORK HAS BEEN DONE, ETC. — *Concluded.*

TOWN OR CITY.	County.	Lay-out.	Resident Engineer.	Date of Contract.	Date of Beginning, 1909.	Date of Ending, 1909.
Salem,	Essex,	1909,	E. J. Nichols,	June 16, 1909,	June 28,	Sept. 4
Salem,	Essex,	1909,	G. N. Willis,	June 16, 1909,	Sept. 4,	Nov. 27
Scituate,	Plymouth,	1909,	W. G. Addis,	May 12, 1909,	June 1,	Sept. 22
Somerset,	Bristol,	1909,	W. M. Stodder,	Oct. 12, 1909,	Nov. 29,	Dec. 24
So. Hadley,	Hampshire,	Surfacing,	R. C. Heath,	June 16, 1909,	June 25,	Aug. 24
So. Hadley,	Hampshire,	1909,	R. C. Heath,	July 27, 1909,	Aug. 2,	Oct. 2
Southampton,	Hampshire,	1909 (Bridge),	P. H. Everett,	June 22, 1909,	Aug. 2,	Nov. 26
Southborough,	Worcester,	1909,	W. N. Chittenden,	Aug. 17, 1909,	Oct. 11,	Nov. 6
Southborough,	Worcester,	1909,	C. H. Norton,	Aug. 17, 1909,	Nov. 8,	Dec. 11
Southborough,	Worcester,	1909,	L. T. C. Loring,	Aug. 17, 1909,	Dec. 13,	Dec. 20
Spencer,	Worcester,	Surfacing,	A. D. Dadley,	June 22, 1909,	July 27,	Sept. 22
Sterling,	Worcester,	1909,	C. H. Norton,	July 13, 1909,	July 22,	Oct. 20
Sterling,	Worcester,	1909,	A. D. Dadley,	July 13, 1909,	July 20,	Oct. 5
Stockbridge,	Berkshire,	1909,	F. D. Sabin,	Aug. 3, 1909,	Aug. 9,	Nov. 27
Stoughton,	Norfolk,	Surfacing,	C. S. Tinkham,	– – –	Aug. 23,	Oct. 14
Stoughton,	Norfolk,	Surfacing,	H. C. Holden,	– – –	Aug. 15,	Oct. 14
Sturbridge,	Worcester,	1909,	A. D. Dadley,	May 12, 1909,	Oct. 2,	Nov. 23
Sturbridge,	Worcester,	1909,	A. T. Edwards,	May 12, 1909,	Aug. 30,	Oct. 2
Sturbridge,	Worcester,	1909,	L. T. C. Loring,	May 12, 1909,	June 10,	Aug. 28
Sunderland,	Franklin,	1909,	W. G. Burns,	Aug. 3, 1909,	Sept. 29,	Nov. 5
Swansea,	Bristol,	1909,	W. M. Stodder,	Sept. 8, 1909,	Sept. 20,	Dec. 14
Templeton,	Worcester,	1909,	R. A. Vesper,	June 22, 1909,	July 8,	Dec. 4
Tewksbury,	Middlesex,	Oiling,	R. C. Heath,	Aug. 24, 1909,	Aug. 19,	Oct. 9
Tyngsborough,	Middlesex,	1909,	C. H. Norton,	June 1, 1909,	June 11,	Sept. 27
Uxbridge,	Worcester,	1909,	L. T. C. Loring,	July 21, 1909,	Sept. 13,	Oct. 2
Uxbridge,	Worcester,	1909,	L. T. C. Loring,	July 21, 1909,	Oct. 30,	Nov. 27
Uxbridge,	Worcester,	1909,	A. T. Edwards,	July 21, 1909,	Oct. 2,	Oct. 30
Walpole,	Norfolk,	Surfacing,	F. H. Cunningham,	July 20, 1909,	Oct. 9,	Nov. 2
Wareham,	Plymouth,	1909,	H. O. Parker,	Aug. 10, 1909,	Aug. 31,	Dec. 18
Wareham (east),	Plymouth,	Surfacing,	A. J. C. Rayner,	June 22, 1909,	Oct. 2,	Oct. 23
Wareham (east),	Plymouth,	Surfacing,	H. O. Parker,	June 22, 1909,	Sept. 16,	Oct. 2
Watertown,	Middlesex,	Surfacing,	R. C. Heath,	Sept. 29, 1909,	Oct. 11,	Nov. 22

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West Bridgewater,	Plymouth,	Surfacing,	W. M. Stodder,	June 22, 1909,	July 15,	Aug. 28
Westfield,	Hampden,	Surfacing,	E. S. Bingham,	May 18, 1909,	June 5,	Aug. 7
West Newbury,	Essex,	Surfacing,	E. M. Stevens,	June 22, 1909,	June 30,	Aug. 27
West Newbury,	Essex,	1909,	E. M. Stevens,	June 16, 1909,	June 30,	Nov. 13
Westminster,	Worcester,	Surfacing,	H. C. Poore,	– –	Sept. 1,	Sept. 14
West Springfield,	Hampden,	Surfacing,	E. S. Bingham,	June 22, 1909,	Aug. 9,	Sept. 6
Weston,	Middlesex,	Surfacing,	R. C. Heath,	Aug. 18, 1909,	Aug. 19,	Oct. 16
Westwood,	Norfolk,	Surfacing,	C. S. Tinkham,	– –	Oct. 12,	Nov. 1
Weymouth,	Norfolk,	1908,	H. C. Holden,	Oct. 14, 1908,	June 15,	July 8
Whately,	Franklin,	Surfacing,	W. G. Burns,	June 29, 1909,	July 24,	Oct. 21
Wilmington,	Middlesex,	Surfacing,	R. C. Heath,	Aug. 24, 1909,	Aug. 19,	Oct. 9
Worcester (Paxton),	Worcester,	Surfacing,	G. L. Lawrence,	June 16, 1909,	Sept. 1,	Nov. 23
Worcester (Paxton),	Worcester,	Surfacing,	A. T. Edwards,	June 16, 1909,	June 24,	Sept. 1
Worcester,	Worcester,	Surfacing,	L. T. C. Loring,	May 25, 1909,	June 17,	Oct. 21
Windsor,	Berkshire,	1906,	F. D. Sabin,	Aug. 14, 1907,	Aug. 30,	Nov. 13
Wrentham,	Norfolk,	Surfacing,	C. S. Tinkham,	Aug. 31, 1909,	Sept. 18,	Nov. 13

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APPENDIX C.

SHOWING CONTRACT PRICES ON

	TOWN OR CITY.	Contract Number.	Contractor.	EXCAVATION.			Portland Cement Concrete Masonry.	Shaping (Square Yard).
				All Kinds (Cubic Yard).	Borrow (Cubic Yard).	Ledge (Cubic Yard).		
1	Agawam,	1295	Lane Construction Corporation.	$0 50	$0 65	–	$15 00	$0 03
2	Ashby,	1238	Charles E. Horne,	–	–	–	–	–
3	Athol,	1325	Rendle & Stoddard,	[2] 2 25	70	–	[3] 8 50	–
4	Attleborough,	1239	Luigi C. Carchia,	35	55	$2 00	10 00	02
5	Auburn,	1260	Worcester Broken Stone Company.	–	–	–	–	–
6	Barnstable,	1287	Luigi C. Carchia,	50	75	2 00	8 00	02½
7	Barre,	1261	Worcester Broken Stone Company.	–	–	–	–	–
8	Becket,	1299	John W. Polcaro,	57	70	1 00	14 50	–
9	Blackstone,	1330	Lane Construction Corporation.	40	50	3 00	9 00	03
10	Charlton,	1297	Richmond F. Hudson,	75	75	3 00	[10] 1 20	–
11	Chilmark,	1327	Town,	35	50	2 00	10 00	03
12	Clarksburg,	1248	Guiseppi I. Cellilli,	47	[12] 1 48	2 15	[13] 5 23 9 50	03
13	Concord-Lincoln,	1262	Fred E. Ellis,	–	–	–	–	–
14	Chester-Huntington,	1275	M. D'Arena & P. Giovannini.	45	65	2 00	8 00	02½
15	Dartmouth,	1249	Luigi C. Carchia,	–	–	–	–	–
16	Deerfield,	1263	Lane Construction Corporation.	40	65	01	9 00	03
17	Duxbury,	1237	Town,	45	55	2 00	–	03
18	Edgartown-Oak Bluffs,	1250	Charles T. Alger,	–	–	–	–	–
19	Erving,	1233	Francis J. Mague,	55	60	1 75	8 00	02½
20	Eastham,	1290	Town,	30	35	–	8 00	–
21	Falmouth,	1301	Lane Quarry Company,	45	60	–	12 00	–
22	Grafton,	1251	Worcester Broken Stone Company.	–	–	–	–	–
23	Granby-South Hadley,	1264	Lane Construction Corporation.	–	–	–	–	–
24	Hamilton,	1282	Town,	50	60	2 00	9 00	02½

[1] Sand binder.
[2] Bridge excavation.
[3] Portland cement concrete steel masonry in bridge.
[4] Chestnut piles (each).
[5] Steel I beams (each).
[6] Eight-inch clay pipe.
[7] Fifteen-inch clay pipe.

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APPENDIX C.

STATE ROADS DURING 1909.

Broken Stone.		Pipe Culverts (per Lineal Foot).						Fencing (Lineal Foot).	Side Drains (Lineal Foot).	Stone Filling for Underdrains (per Cubic Yard).	Bounds (Each).	Catch-basins (Each).	Bituminous Surfacing (Square Yard).	
		Clay.			Iron.									
Local (Ton).	Trap (Ton).	Twelve-inch.	Eighteen-inch.	Twenty-four-inch.	Twelve-inch.	Eighteen-inch.	Twenty-four-inch.							
–	$2 50	–	–	–	$2 50	–	–	$0 30	–	[1]$0 60	$2 00	–	$0 18	1
$1 38	–	–	–	–	–	–	–	–	–	–	–	–	–	2
–	2 25	–	–	–	–	–	–	–	–	–	[4]10 00	[5]$100 00	–	3
1 35	–	[6]$0 50	[7]$1 00	–	–	–	–	30	–	70	2 00	30 00	–	4
–	2 09	–	–	–	–	–	–	–	–	–	–	–	22	5
1 95	–	75	[6]65	–	–	–	–	35	–	–	2 00	30 00	–	6
–	[8]2 85	–	–	–	–	–	–	–	–	–	–	–	–	7
–	–	75	–	–	2 25	–	–	37	[9]$0 10	75	–	–	–	8
–	1 90	75	–	–	–	–	–	30	–	–	1 50	–	–	9
–	–	–	–	–	–	–	–	35	–	1 00	3 00	–	–	10
1 75	–	80	[6]50	[7]$1 50	–	–	–	30	[11]65	85	2 10	30 00	–	11
1 68	2 57	78	1 23	[6]63	2 25	$2 89	[14]$0 67	24	68	78	1 85	37 75	–	12
–	2 22	–	–	–	–	–	–	–	–	–	–	–	–	13
–	1 99	80	–	–	2 10	–	–	27	–	95	1 50	–	–	14
1 55	–	–	–	–	–	–	–	–	–	–	–	–	–	15
–	[8]2 90	75	–	2 50	–	–	–	30	–	–	1 50	–	–	16
[8]2 55	–	[6]50	–	–	–	–	–	–	–	–	1 50	35 00	–	17
–	–	–	–	–	–	–	–	–	–	–	–	–	06	18
–	1 80	75	–	–	2 25	–	–	27	1 00	–	1 75	30 00	–	19
–	–	[6]55	–	–	–	–	–	30	–	–	1 00	30 00	14	20
–	–	[14]70	–	–	–	–	–	30	–	–	3 00	35 00	28	21
–	1 97	–	–	–	–	–	–	–	–	–	–	–	–	22
–	2 14	–	–	–	–	–	–	–	–	–	–	–	–	23
–	[15]4 00 1 85	75	[7]90	–	2 00	–	–	30	–	–	1 50	30 00	–	24

[8] Includes bituminous treatment.
[9] Stock fence.
[10] Gravel for surfacing.
[11] Clay binder (per cubic yard).
[12] Unscreened broken stone (per ton).
[13] Dry rubble masonry.
[14] Ten-inch clay pipe.
[15] Mixed with bituminous materials.

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SHOWING CONTRACT PRICES ON

	TOWN OR CITY.	Contract Number.	Contractor.	Excavation.			Portland Cement Concrete Masonry.	Shaping (Square Yard).
				All Kinds (Cubic Yard).	Borrow (Cubic Yard).	Ledge (Cubic Yard).		
1	Hatfield,	1319	Town,	$0 50	$0 55	–	$10 00	$0 02
2	Haverhill,	1283	James E. Watkins,	[2]77½ 42½	51½	$1 50	12 75	02
3	Ipswich,	1240	James E. Watkins,	50	67	1 60	9 75	02½
4	Lee,	1243	D. Hammond & Bro.,	49	–	–	–	–
5	Lee-Becket,	1289	John W. Polcaro,	–	60	–	10 00	–
6	Leicester,	1291	Charles E. Horne,	55	[6]2 00	–	–	–
7	Marion,	1257	William F. Loud & Son,	–	–	–	–	–
8	Marhsfield,	1252	Luigi C. Carchia,	40	70	2 00	10 00	02
9	Mattapoisett,	1258	William F. Loud & Son,	–	–	–	–	–
10	Milford,	1230	Lane Construction Corporation.	60	60	1 50	9 00	03
11	Montague,	1316	John B. Hayes,	35	55	10	9 50	02½
12	Nantucket,	1259	Herbert L. Thomas,	–	–	–	–	–
13	Newbury (Bridge),	1320	New England Contracting Company.	[13]–	1 90	–	8 45	–
14	Norfolk-Walpole,	1284	John F. Gill Company,	–	–	–	–	–
15	Northampton,	1253	David T. Perry,	–	–	–	–	–
16	Norwood-Walpole,	1285	Snow & Farrington,	–	–	–	–	–
17	Orange,	1278	Francis J. Mague,	–	–	–	–	–
18	Oxford,	1234	A. Vito,	50	50	1 50	6 75	02
19	Palmer,	1302	William N. Flynt Granite Company.	[2]60 40	40	2 50	16 00	03
20	Pittsfield-Lenox,	1254	Olin T. Benedict,	–	–	–	–	–
21	Pittsfield,	1292	Olin T. Benedict,	50	–	3 00	10 00	03
22	Quincy,	1328	City,	70	–	1 50	8 50	03
23	Randolph,	1317	Edward J. Rourke,	50	60	1 50	10 00	03
24	Revere-Saugus,	1318	Richmond F. Hudson,	–	–	–	–	–
25	Rowley,	1232	John Collins,	40	50	2 00	8 00	02
26	Russell,	1244	Lane Quarry Company,	–	–	–	–	–
27	Salem,	1265	D. Linehan & Son,	[2]2 00 50	80	2 00	[22]11 00 7 00	02
28	Scituate,	1235	John A. Gaffey,	50	65	2 00	11 00	03
29	Somerset,	1324	Town,	45	50	2 00	10 00	03
30	Somerville,	1329	John C. Coleman & Sons Company.	–	–	–	–	–

[1] Twenty-inch iron pipe.
[2] Bridge excavation.
[3] Cobblestone gutters.
[4] Includes bituminous treatment.
[5] Broken stone, excavated, screened and replaced.
[6] Sand for binder.
[7] Fifteen-inch iron pipe.
[8] Fifteen-inch clay pipe.
[9] Eight-inch clay pipe.
[10] Eight-inch iron pipe.
[11] Sand and oil surface (2 inches in thickness).
[12] Sand and oil surface (1 inch in thickness).
[13] Bridge superstructure (lump sum, $9,237.90).

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STATE ROADS DURING 1909 — *Continued.*

Broken Stone.		Pipe Culverts (per Lineal Foot).						Fencing (Lineal Foot).	Side Drains (Lineal Foot).	Stone Filling for Underdrains (per Cubic Yard).	Bounds (Each).	Catch-basins (Each).	Bituminous Surfacing (Square Yard).	
		Clay.			Iron.									
Local (Ton).	Trap (Ton).	Twelve-inch.	Eighteen-inch.	Twenty-four-inch.	Twelve-inch.	Eighteen-inch.	Twenty-four-inch.							
–	$2 10	$0 75	–	–	[15]$4 00	–	–	$0 35	–	–	$2 00	$25 00	–	1
$1 50	–	65	–	–	–	–	–	29	[23]$0 72½	–	1 50	28 00	–	2
–	[12] 2 28	–	$1 40	–	–	–	–	29	–	–	1 75	–	–	3
[5]60	2 00	–	–	–	–	–	–	–	–	$1 00	–	–	–	4
–	–	–	–	–	2 25	–	–	–	–	–	–	–	–	5
1 62	2 29	–	–	–	–	–	–	–	–	98	–	–	$0 09	6
1 97	–	–	–	–	–	–	–	–	–	–	–	–	–	7
[11] 1 70	–	1 00	–	–	2 00	[7]$3 00	–	30	–	80	2 00	23 00	–	8
1 87	–	–	–	–	–	–	–	–	–	–	–	–	–	9
[12] 2 05	–	75	1 50	[8]$1 00	–	–	–	30	–	–	2 00	–	–	10
–	1 85	70	[9]50	–	2 00	[10]1 50	–	–	–	–	1 50	27 00	–	11
–	–	–	–	–	–	–	–	–	–	–	–	–	[11]20	12
–	–	–	–	–	–	–	–	61½	–	–	–	–	[13]08 –	13
–	2 89	–	–	–	–	–	–	–	–	–	–	–	[14]–	14
–	1 90	–	–	–	–	–	–	–	–	–	–	–	–	15
–	3 00	–	–	–	–	–	–	–	–	–	–	–	[14]–	16
–	2 35	–	–	–	–	–	–	–	–	–	–	–	33	17
[11] 1 53	–	75	1 50	–	–	2 50	–	30	–	50	1 50	–	–	18
1 70	–	[15]1 00	[16]17 00	[17] 7 75	[18]16 00	–	–	30	[19]1 25	1 25	2 50	25 00	–	19
–	[14] 4 49	–	–	–	–	–	–	–	–	–	–	–	–	20
–	1 90	–	–	–	2 25	[20]2 00	–	30	[3]80	1 20	2 50	30 00	30	21
1 53	–	75	[9]55	–	–	–	–	30	–	65	2 00	30 00	–	22
1 50	–	–	[15]60	–	–	–	–	30	–	–	2 00	30 00	–	23
–	–	–	–	–	–	–	–	–	–	–	–	–	[21]38	24
1 30	–	65	85	–	2 85	[20]2 75	–	30	–	–	1 00	25 00	–	25
–	2 23	–	–	–	–	–	–	–	–	–	–	–	[14]–	26
–	1 45	65	1 60	–	–	–	–	30	–	–	2 00	30 00	–	27
[12] 2 25	–	75	[9]65	–	–	–	–	30	–	1 00	2 00	30 00	–	28
–	2 44	75	[21] 1 15	–	2 00	–	–	30	–	90	2 00	30 00	–	29
–	–	[15]85	–	–	–	–	–	[22]86	[24]1 20	–	–	35 00	–	30

[14] Bituminous surfacing applied at cost.
[15] Ten-inch clay pipe.
[16] Arch masonry.
[17] First-class masonry.
[18] Parapet masonry.
[19] Rock embankment.
[20] Ten-inch iron pipe.
[21] Mixing and applying.
[22] Concrete masonry in bridge.
[23] Straight edgestones (per lineal foot).
[24] Curved edgestones (per lineal foot).

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SHOWING CONTRACT PRICES ON

	TOWN OR CITY.	Contract Number.	Contractor.	EXCAVATION.			Portland Cement Concrete Masonry.	Shaping (Square Yard).
				All Kinds (Cubic Yard).	Borrow (Cubic Yard).	Ledge (Cubic Yard).		
1	Southampton,	1268	P. A. Breglio Contracting Company.	[1]$0 75 50	[2]$2 00	[3]$18 00	$10 00	$0 03½
2	Southborough,	1298	Francis J. Mague,	60	–	2 00	9 00	–
3	South Hadley,	1288	Town,	60	75	–	12 00	03
4	Spencer,	1269	John F. Gill Company,	90	–	–	–	–
5	Sterling,	1281	Guiseppi I. Cellilli,	42	–	1 59	10 00	02
6	Stockbridge,	1293	Michael L. Camarco,	55	65	2 50	10 50	03
7	Sturbridge,	1236	A. Vito,	50	–	1 50	6 75	03
8	Sunderland,	1294	Lane Construction Corporation.	60	65	[9]70	14 00	04
9	Swansea,	1315	Town,	45	50	2 00	10 00	03
10	Tewksbury - Wilmington-Lowell.	1303	Harvey W. Tarbell,	–	–	–	–	–
11	Templeton-Phillipston,	1270	Francis J. Mague,	60	60	1 25	10 00	03
12	Tyngsborough,	1255	Herbert L. Thomas,	50	50	2 00	[12]3 50 16 00	03
13	Uxbridge,	1286	Town,	45	65	2 00	9 00	03
14	Wareham,	1271	Lane Quarry Company,	–	–	–	–	–
15	Wareham-Rochester,	1296	Edward J. Rourke,	40	50	1 50	10 00	–
16	Watertown,	1322	Town,	–	–	–	–	–
17	Westfield,	1241	Lane Construction Corporation.	–	–	–	–	–
18	Weston-Wayland-Sudbury,	1300	Walter Cressy,	–	–	–	–	–
19	West Bridgewater,	1272	Edward J. Rourke,	–	–	–	–	–
20	West Newbury,	1266	Richmond F. Hudson,	50	60	2 00	9 00	02
21	West Newbury-Newburyport.	1273	Richmond F. Hudson,	–	–	–	–	–
22	West Springfield,	1274	Lane Construction Corporation.	–	–	–	–	–
23	Whately,	1276	David T. Perry,	–	–	–	–	–
24	Worcester-Holden,	1242	Charles E. Horne,	55	–	1 00	–	[6]1 00
25	Worcester-Paxton,	1267	D'Arena & Giuliano,	45	–	–	–	[6]2 00
26	Wrentham-Plainville,	1304	Charles T. Alger.	–	–	–	–	–

[1] Bridge excavation.
[2] Rock embankment.
[3] Portland cement concrete steel masonry in bridge.
[4] Spruce piles (each).
[5] Gravel for surfacing.
[6] Broken stone, excavated, screened and replaced.

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STATE ROADS DURING 1909 — *Concluded.*

Broken Stone.		Pipe Culverts (per Lineal Foot).						Fencing (Lineal Foot).	Side Drains (Lineal Foot).	Stone Filling for Underdrains (per Cubic Yard).	Bounds (Each).	Catch-basins (Each).	Bituminous Surfacing (Square Yard).	
		Clay.			Iron.									
Local (Ton).	Trap (Ton).	Twelve-inch.	Eighteen inch.	Twenty-four-inch.	Twelve-inch.	Eighteen inch.	Twenty-four-inch.							
–	$2 00	–	–	–	–	–	–	$1 00	–	[4]$10 00	$7 00	–	–	1
[5]$0 85	–	–	–	–	–	–	–	–	–	1 10	2 00	–	–	2
–	2 00	$0 80	–	–	$2 50	–	–	30	–	–	2 00	$35 00	–	3
[6]1 50	–	–	–	–	–	–	–	–	–	1 50	–	–	$0 27	4
1 85 –	1 72	59	–	–	2 18	–	–	34	–	62	2 25	–	–	5
1 95	2 25	[7]85	[8]$0 75	–	–	–	–	35	–	1 25	2 25	25 00	–	6
1 30	–	75	–	–	2 50	–	–	30	–	50	2 00	–	–	7
–	2 55	–	–	–	–	–	–	30	–	–	2 00	–	–	8
1 45	–	75	[8]50	[10]$1 10	2 00	[11]$1 25	–	30	–	85	1 50	30 00	–	9
–	–	–	–	–	–	–	–	–	–	–	–	–	05	10
–	–	75	–	–	2 25	–	–	25	–	75	2 00	30 00	30	11
–	1 90	80	1 30	[7]80	–	–	–	30	[13]$0 55	–	2 00	30 00	–	12
–	–	75	–	–	–	–	–	25	–	[5]1 00	1 50	–	–	13
–	–	–	–	–	–	–	–	–	–	–	–	–	30	14
–	–	75	[8]50	–	[12]2 00	–	–	30	–	1 00	2 00	30 00	28	15
–	–	–	–	–	–	–	–	–	–	–	–	–	46	16
–	2 14	–	–	–	–	–	–	–	–	–	–	–	–	17
–	–	–	–	–	–	–	–	–	–	–	–	–	05	18
1 75	–	–	–	–	–	–	–	–	–	–	–	–	35	19
1 70	–	70	1 50	[7]60	–	–	–	30	–	–	2 00	30 00	–	20
2 25	–	–	–	–	–	–	–	–	–	–	–	–	28	21
–	2 14	–	–	–	–	–	–	–	–	–	–	–	23	22
–	2 00	–	–	–	–	–	–	–	–	–	–	–	20	23
[14]2 96	–	–	–	–	–	–	–	–	–	72	–	–	–	24
[14]2 93	–	–	–	–	–	–	–	–	–	1 00	–	–	–	25
2 00 –	–	–	–	–	–	–	–	–	–	–	–	–	06½	26

[7] Ten-inch clay pipe.
[8] Eight-inch clay pipe.
[9] Culvert excavation.
[10] Fifteen-inch clay pipe.
[11] Eight-inch iron pipe.
[12] Dry rubble masonry.
[13] Cobblestone gutters.
[14] Mixed with bituminous materials.

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APPENDIX D.

STATEMENT OF CLAIMS AGAINST THE COMMISSION.

[As required by section 5, chapter 18 of the Revised Laws.]

NAME.	Residence.	Nature of Claim.
Chase, Charles A.,	Somerset,	Damages caused by drainage conditions on State highway at Somerset.
Flagg, Lucretia T.,	Northampton,	Damages due to construction of State highway at Northampton.
Hill, Everett,	Charlton,	Damages due to construction of State highway at Charlton.
Lincoln, Benj. A.,	Taunton,	Damages due to construction of State highway at Taunton.
McLaughlin, Nancy M.,	Dover,	Damages due to construction of State highway at Dover.
Nourse, Joseph P.,	Marlborough,	Damages due to construction of State highway at Marlborough.
Seabury, Phœbe W.,	Dartmouth,	Damages due to construction of State highway at Dartmouth.
Sullivan, Kate,	Millbury,	Damages due to construction of State highway at Millbury.
Taft, Kate P.,	Northampton,	Damages due to construction of State highway at Northampton.
Talbot, Joseph,	Taunton,	Damages due to construction of State highway at Taunton.
Warren, Alice E. M.,	Auburn,	Damages due to construction of State highway at Auburn.

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APPENDIX E.

COST PER MILE OF ROAD (SECTIONS COMPLETED DURING THE YEAR 1909).[1]

TOWN OR CITY.	Square Yards.	Miles.	Cost per Mile.
Agawam,[2]	7,705	.876	$11,530 01
Attleborough,	6,500	.740	5,651 01
Becket, 1908,	31,083	3.532	12,005 24
Billerica, 1908,	5,088	.578	9,909 05
Chilmark, 1908,[3]	5,332	.814	5,798 46
Chester-Huntington,	11,367	1.292	7,737 47
Clarksburg, 1907-09,	4,152	.478	15,122 17
Deerfield,[2]	5,245	.600	14,646 73
Dighton, 1908,	5,943	.677	5,920 97
Duxbury,[2]	6,070	.690	7,435 24
Erving,	5,755	.654	10,590 24
Foxborough, 1908,	5,963	.677	5,922 62
Harwich-Brewster-Orleans, 1908,[4]	10,301	1.951	4,572 35
Holden, 1908,	3,217	.366	7,060 25
Ipswich,	7,750	.881	9,221 06
Littleton,	4,583	.521	1,420 40
Marlborough, 1908,[5]	7,160	.814	5,858 75
Marshfield,[2]	6,498	.738	6,307 77
Milford,[2]	5,488	.624	8,528 00
Montague,	5,308	.603	8,177 18
Norton, 1908,	6,957	.790	5,569 50
Oxford, 1908,	5,500	.625	8,707 60
Oxford, 1909,[2]	6,313	.718	8,212 74
Palmer, 1908,	30,450	3.441	10,214 65
Randolph,	4,553	.517	5,212 90
Rowley,[6]	12,331	1.401	4,837 42

[1] Exclusive of bridges.
[2] Includes cost of bituminous surfacing.
[3] Macadam 12 feet in width.
[4] Sand and oil mixture greater than 3 inches in thickness.
[5] Gravel road with sand and oil surface.
[6] 2,420 feet gravel; balance macadam.

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COST PER MILE OF ROAD, ETC. — *Concluded.*

TOWN OR CITY.	Square Yards.	Miles.	Cost per Mile.
Scituate,[1]	4,500	.510	$11,654 71
South Hadley,	5,473	.622	11,154 29
Sterling,	5,333	.606	7,900 64
Sunderland,	1,488	.170	9,388 94
Tyngsborough,	16,423	1.867	8,026 61
Wareham-Rochester,[2]	13,743	1.562	3,723 92
Weymouth, 1908,	7,750	.881	4,653 42
West Newbury,	12,085	1.373	9,461 47
Totals,	283,407	33.189	–
Average cost per mile,	. . . .	. . . .	$8,177 38

[1] Includes cost of bituminous surfacing.
[2] Sand and oil mixture greater than 3 inches in thickness.

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APPENDIX F.

MAINTENANCE.

Table showing the Amounts expended for Repair and Maintenance, the Cost per Mile for Maintenance during 1909, the Cost per Mile per Year on Each Road, the Number of Miles under Maintenance and the Amounts to be assessed upon Municipalities for Maintenance under Chapter 47 of the Revised Laws.

TOWN OR CITY.	AMOUNT EXPENDED.				EXPENDED PER MILE IN 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
Abington,	$1,016 13	$205 23	–	$1,221 36	$60 90	–	$60 90	$68 81	3.37	$168 50
Acton,	2,297 95	568 96	–	2,866 91	105 75	–	105 75	69 57	5.38	269 00
Acushnet,	4,399 93	281 29	–	4,681 22	82 49	–	82 49	24 63	3.41	170 50
Adams,	595 74	748 10	–	1,343 84	368 52	–	368 52	158 47	2.03	101 50
Agawam,	940 90	132 91	$1,448 33	2,522 14	42 87	$467 20	510 07	257 63	3.10	132 91
Amesbury,	1,303 40	133 35	60	1,437 35	44 15	20	44 35	84 55	3.02	133 35
Amherst,	730 36	83 11	–	813 47	85 68	–	85 68	115 22	.97	48 50
Andover,	5,218 70	6,043 15	973 34	12,235 19	1,442 28	232 30	1,674 58	295 89	4.19	209 50
Ashby,	4,074 41	3,105 13	19 25	7,198 79	869 78	5 39	875 17	163 05	3.57	178 50
Ashfield,	3,035 38	228 05	–	3,263 43	141 65	–	141 65	183 03	1.61	80 50
Ashland,	196 76	387 60	–	584 36	263 67	–	263 67	73 41	1.47	73 51
Athol,	6,865 11	244 42	–	7,109 53	78 85	–	78 85	260 90	3.10	155 00

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Table showing the Amounts expended for Repairs, Maintenance, etc. — Continued.

TOWN OR CITY.	Amount expended.				Expended per Mile in 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be Assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
Attleborough,	$3,604 13	$287 21	–	$3,891 34	$84 72	–	$84 72	$184 51	3.39	$169 50
Auburn,	6,008 89	4,304 20	$6,325 96	16,639 05	815 19	$1,198 09	2,013 28	340 90	5.28	264 00
Barnstable,	2,936 58	574 19	–	3,510 77	89 44	–	89 44	79 23	6.42	321 00
Barre,	1,487 75	126 65	104 98	1,719 38	43 82	36 33	80 15	67 29	2.89	126 65
Becket,	990 01	354 30	143 60	1,487 91	63 84	25 87	89 71	150 75	5.55	–
Bedford,	673 38	197 97	1 99	873 34	119 98	1 20	121 18	75 22	1.65	82 50
Belchertown,	700 53	70 52	–	771 05	30 00	–	30 00	60 85	2.35	70 52
Bellingham,	308 33	107 76	60	416 63	33 86	18	34 04	32 96	3.18	107 70
Berkley,	164 19	29 13	–	193 32	37 83	–	37 83	83 68	.77	29 13
Beverly,	13,425 46	3,211 17	1,260 98	17,897 61	565 34	222 00	787 34	443 78	5.68	284 00
Billerica,	147 27	27 91	–	175 18	48 12	–	48 12	729 92	.58	27 91
Blackstone,	1,182 60	131 50	40	1,314 50	73 05	22	73 27	88 40	1.80	90 00
Bourne,	1,958 32	1,250 25	1,630 85	4,839 42	277 83	362 41	640 24	175 78	4.50	225 00
Boxborough,	902 75	184 66	–	1,087 41	55 78	–	55 78	53 33	3.31	165 50
Braintree,	460 54	100 02	–	560 56	94 35	–	94 35	69 13	1.06	53 00
Brewster,	5,338 51	521 12	–	5,859 63	66 63	–	66 63	77 36	7.82	391 00
Bridgewater,	382 47	357 47		739 94	103 01	–	103 01	53 42	3.47	173 50
Brimfield,	1,915 61	61 91	–	1,977 52	15 59	–	15 59	53 91	3.97	61 91

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Brockton,	6,293 35	344 77	27 68	6,665 80	108 07	8 67	116 74	228 36	3.19	159 50
Brookfield,	2,643 38	620 79	527 51	3,791 68	159 58	135 60	295 18	139 24	3.89	194 50
Buckland,	4,972 83	511 78	–	5,484 61	119 57	–	119 57	130 64	4.28	214 00
Burlington,	1,410 08	569 58	–	1,979 66	149 87	–	149 87	113 18	3.80	190 00
Canton,	442 64	1,000 42	2,063 02	3,506 08	309 72	638 70	948 42	436 07	3.23	161 50
Charlemont,	4,257 00	254 12	–	4,511 12	330 02	–	330 02	520 91	.77	38 50
Charlton,	1,229 60	574 46	43 81	1,847 87	178 95	13 64	192 59	110 05	3.21	160 50
Chatham,	1,616 56	457 89	–	2,074 45	63 86	–	63 86	71 16	7.17	358 50
Chelmsford,	1,638 63	730 62	20	2,369 45	173 54	04	173 58	102 75	4.21	210 50
Chelsea,	462 80	129 96	75	593 51	135 37	78	136 15	101 11	.96	48 00
Cheshire,	1,911 98	161 12	–	2,073 10	61 96	–	61 96	95 05	2.60	130 00
Chester,	2,360 56	438 24	–	2,798 80	102 39	–	102 39	131 21	4.28	214 00
Chicopee,	9,158 17	1,551 08	3 10	10,712 35	398 73	79	399 52	459 16	3.89	194 50
Chilmark,	312 01	202 06	–	514 07	55 97	–	55 97	46 62	3.61	180 50
Clarksburg,	321 75	84 73	–	406 48	78 45	–	78 45	163 90	1.08	54 00
Cohasset,	939 38	120 73	–	1,060 11	52 95	–	52 95	50 99	2.28	114 00
Colrain,	1,621 94	139 97	–	1,761 91	65 71	–	65 71	98 32	2.13	106 50
Concord,	2,090 60	5,799 74	216 81	8,107 15	1,615 52	60 39	1,675 91	304 21	3.59	179 50
Dalton,	5,018 60	221 47	–	5,240 07	86 51	–	86 51	202 47	2.56	128 00
Dartmouth,	1,863 12	2,667 32	19 13	4,549 57	587 51	4 21	591 72	138 07	4.54	227 00
Deerfield,	6,086 42	658 66	–	6,745 08	108 51	–	108 51	178 44	6.07	303 50
Dennis,	5,042 77	458 56	–	5,501 33	61 14	–	61 14	75 37	7.50	375 00
Dighton,	501 68	74 58	24 20	600 46	27 02	8 76	35 78	49 58	2.76	74 58

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Table showing the Amounts expended for Repairs, Maintenance, etc. — Continued.

TOWN OR CITY.	Amount expended.				Expended per Mile in 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be Assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
Douglas,	$900 06	$173 65	$53 75	$1,127 46	$81 52	$25 23	$106 75	$101 84	2.13	$106 50
Dover,	215 51	260 69	80	477 00	119 58	36	119 94	94 64	2.18	109 00
Dracut,	25 32	255 23	–	280 55	139 46	–	139 46	58 81	1.83	91 50
Dudley,	1,507 44	440 38	–	1,947 82	192 31	–	192 31	214 52	2.29	114 50
Duxbury,	2,403 93	376 25	–	2,780 18	72 92	–	72 92	79 95	5.16	258 00
East Longmeadow,	139 65	69 24	–	208 89	66 58	–	66 58	45 01	1.04	52 00
Eastham,	1,630 27	519 65	2 16	2,152 08	153 74	64	154 38	174 82	3.38	169 00
Easthampton,	2,106 87	151 60	–	2,258 47	62 64	–	62 64	83 31	2.42	121 00
Easton,	2,665 89	67 45	12 62	2,745 96	84 31	15 77	100 08	382 97	.80	40 00
Edgartown,	879 55	2,374 90	248 44	3,502 89	981 36	102 66	1,084 02	172 13	2.42	121 00
Erving,	2,071 36	364 90	4 84	2,441 10	108 60	1 44	110 04	115 80	3.36	168 00
Essex,	389 20	2,578 88	85 09	3,053 17	7,368 23	243 11	7,611 34	1,394 14	.35	17 50
Fairhaven,	1,007 18	176 61	–	1,183 79	121 80	–	121 80	57 60	1.45	72 50
Falmouth,	2,427 38	1,427 09	–	3,854 47	106 18	–	106 18	62 58	13.44	672 00
Fitchburg,	7,716 69	445 24	–	8,161 93	108 07	–	108 07	218 00	4.12	206 00
Foxborough,	531 49	226 73	–	758 22	64 60	–	64 60	43 82	3.51	175 50
Framingham,	122 28	165 23	40	287 91	67 72	16	67 88	32 49	2.44	122 00
Franklin,	140 39	67 93	40	208 72	49 22	29	49 51	53 11	1.38	67 93

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Freetown,	838 52	419 46	–	1,257 98	108 39	–	108 39	60 68	3.87	193 50
Gardner,	3,296 46	859 56	430 72	4,586 74	255 82	128 19	384 01	131 01	3.36	168 00
Gloucester,	9,277 06	7,794 43	834 03	17,905 52	1,958 40	209 56	2,167 96	520 35	3.98	199 00
Goshen,	6,057 56	124 87	–	6,182 43	50 76	–	50 76	229 06	2.46	–
Grafton,	3,760 87	2,466 19	627 42	6,854 48	1,203 02	306 06	1,509 08	375 38	2.05	102 50
Granby,	2,436 11	2,631 81	112 37	5,180 29	1,078 61	46 05	1,124 66	328 91	2.44	122 00
Great Barrington,	10,923 63	295 63	1,510 80	12,730 06	86 69	443 05	529 74	320 41	3.41	170 50
Greenfield,	898 92	304 44	–	1,203 36	86 49	–	86 49	66 30	3.52	176 00
Groton,	478 12	59 77	25 00	562 89	42 39	17 73	60 12	58 21	1.41	59 77
Groveland,	871 01	303 81	65	1,175 47	176 63	38	177 01	103 74	1.72	86 00
Hadley,	5,158 05	851 14	44 62	6,053 81	181 48	9 51	190 99	136 41	4.69	234 50
Hamilton,	2,423 46	134 30	199 45	2,757 21	88 36	131 22	219 58	189 14	1.52	76 00
Hancock,	7,625 48	939 68	–	8,565 16	290 92	–	290 92	231 74	3.23	161 50
Hanover,	106 10	154 10	–	260 20	83 30	–	83 30	74 13	1.85	92 50
Hardwick,	772 87	217 87	–	990 74	265 70	–	265 70	123 22	.82	41 00
Harvard,	380 45	63 10	–	443 55	39 94	–	39 94	46 49	1.58	63 10
Harwich,	2,762 04	442 95	–	3,204 99	68 36	–	68 36	78 30	6.48	324 00
Hatfield,	457 18	23 40	–	480 58	20 00	–	20 00	410 75	1.17	23 40
Haverhill,	7,262 20	200 78	1 00	7,463 98	54 26	27	54 53	261 25	3.70	185 00
Hingham,	4,629 48	579 66	4,167 71	9,376 85	217 92	1,566 81	1,784 73	267 07	2.66	133 00
Hinsdale,	436 17	54 41	–	490 58	53 34	–	53 34	71 82	1.02	51 00
Holbrook,	999 46	32 31	–	1,031 77	18 46	–	18 46	53 91	1.75	32 31
Holden,	3,304 81	6,060 31	666 11	10,031 23	1,281 25	140 83	1,422 08	204 80	4.73	236 50

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Table showing the Amounts expended for Repairs, Maintenance, etc. — Continued.

TOWN OR CITY.	Amount expended.				Expended per Mile in 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
Holliston,	$24 49	$104 98	$0 45	$129 92	$71 90	$0 31	$72 21	$39 73	1.46	$73 00
Hudson,	164 19	77 25	10	241 54	67 76	09	67 85	77 66	1.14	55 70
Huntington,	7,638 03	21 39	183 59	7,843 01	9 51	81 60	91 11	455 45	2.25	21 39
Ipswich,	122 61	236 71	571 73	931 05	111 13	268 42	379 55	372 42	2.13	106 50
Kingston,	257 84	179 10	–	436 94	175 59	–	175 59	131 61	1.02	51 00
Lakeville,	969 17	173 68	–	1,142 85	48 65	–	48 65	44 54	3.57	173 68
Lancaster,	483 09	64 28	–	547 37	51 42	–	51 42	61 09	1.25	62 50
Lawrence,	2,969 79	28 89	1 00	2,999 68	107 00	3 70	110 70	900 80	.27	13 50
Lee,	11,522 07	2,734 41	3,169 65	17,426 13	524 84	608 38	1,133 22	422 34	5.21	260 50
Leicester,	15,807 38	2,408 28	8,476 21	26,691 87	494 51	1,740 49	2,235 00	466 23	4.87	243 50
Lenox,	10,527 77	6,868 83	5,570 38	22,966 98	896 71	727 20	1,623 91	641 53	7.66	383 00
Leominster,	617 35	271 98	–	889 33	124 76	–	124 76	56 25	2.18	109 00
Lexington,	15,489 63	589 67	900 96	16,980 26	137 45	210 01	347 46	342 34	4.29	214 50
Lincoln,	7,527 73	411 18	299 82	8,238 73	198 64	144 84	343 48	310 54	2.07	103 50
Littleton,	1,272 01	306 32	–	1,578 33	103 14	–	103 14	105 71	2.97	148 50
Lowell,	13,488 35	813 59	196 14	14,498 08	353 73	85 28	439 01	534 98	2.30	115 00
Lunenburg,	5,784 31	299 96	–	6,084 27	110 28	–	110 28	254 36	2.72	136 00
Lynn,	3,115 85	1,596 50	972 79	5,685 14	1,754 40	1,069 00	2,823 40	1,516 03	.91	45 50

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Mansfield,	340 72	80 94	–	421 66	66 89	–	66 89	63 50	1.21	60 50
Marion,	2,262 79	6,554 22	1,045 88	9,862 89	1,176 70	187 77	1,364 47	186 90	5.57	278 50
Marlborough,	5,397 91	3,790 99	223 33	9,412 23	598 89	35 28	634 17	224 95	6.33	316 50
Marshfield,	1,975 97	313 90	–	2,289 87	58 78	–	58 78	61 06	5.34	267 00
Mattapoisett,	1,468 93	1,558 91	266 49	3,294 33	485 64	83 01	568 65	101 86	3.21	160 50
Medford,	3 27	523 53	–	526 80	608 75	–	608 75	431 80	.80	43 00
Melrose,	200 91	19 51	–	220 42	48 77	–	48 77	179 20	.40	19 51
Merrimac,	1,440 57	166 68	90	1,609 15	78 62	42	79 04	82 09	2.12	106 00
Methuen,	3,977 92	162 57	50	4,140 99	44 05	13	44 18	153 31	3.69	162 57
Middleborough,	2,250 43	324 34	–	2,574 77	26 05	–	26 05	31 99	12.45	324 34
Milford,	127 91	163 80	–	291 71	69 11	–	69 11	40 34	2.37	81 90
Millbury,	767 06	529 98	–	1,297 04	177 84	–	177 84	75 32	2.98	149 00
Milton,	3,126 13	69 76	–	3,195 89	80 18	–	80 18	413 44	.87	43 50
Monson,	1,218 35	93 61	–	1,311 96	58 14	–	58 14	85 74	1.61	80 50
Montague,	1,381 28	265 31	–	1,646 59	61 55	–	61 55	65 62	4.31	215 50
Nantucket,	4,439 56	10,521 34	112 40	15,073 30	1,623 66	17 34	1,641 00	206 00	6.48	324 00
Natick,	767 04	348 19	84	1,116 07	108 78	26	109 04	55 94	3.20	160 00
Needham,	103 92	120 36	–	224 28	54 29	–	54 29	21 24	2.03	101 50
New Braintree,	195 41	36 03	–	231 44	90 07	–	90 07	72 77	.40	20 00
Newbury,	3,547 34	1,646 46	1,177 80	6,371 60	389 23	278 44	667 66	224 98	4.23	211 50
Newburyport,	1,786 84	5,376 48	232 26	7,405 58	3,072 27	132 72	3,204 99	376 49	1.75	87 50
Newton,	103 45	9 29	–	112 74	9 01	–	9 01	13 55	1.03	9 29
Norfolk,	1,031 58	502 60	2,594 61	4,128 79	346 62	1,789 45	2,136 07	210 03	1.45	72 50

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Table showing the Amounts expended for Repairs, Maintenance, etc. — Continued.

TOWN OR CITY.	Amount expended.				Expended per Mile in 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
North Adams,	$14,838 90	$558 07	$1,252 90	$16,649 87	$139 16	$312 44	$451 60	$419 28	4.01	$200 50
Northampton,	2,625 21	2,068 13	48 63	4,741 97	524 90	12 34	537 24	171 19	3.94	197 00
North Andover,	989 31	355 99	40	1,345 70	151 49	17	151 66	91 54	2.35	117 50
North Attleborough,	13,726 59	201 42	–	13,928 01	55 95	–	55 95	302 45	3.60	180 00
Northborough,	1,465 72	1,727 81	878 05	4,071 58	435 22	221 17	656 39	121 86	3.97	198 50
North Brookfield,	267 39	114 81	–	382 20	63 09	–	63 09	83 63	1.82	91 00
Northfield,	461 12	146 53	–	607 65	126 32	–	126 32	73 92	1.16	58 00
North Reading,	1,890 98	395 43	40	2,286 81	171 18	17	171 35	113 37	2.31	115 50
Norton,	1,186 06	198 69	–	1,384 75	98 85	–	98 85	240 82	2.01	100 50
Norwood,	5,221 47	1,623 28	1,343 43	8,188 18	791 84	655 32	1,447 16	330 30	2.05	102 50
Oak Bluffs,	4,427 08	2,958 28	248 46	7,633 82	1,248 22	104 83	1,353 05	236 63	2.37	118 50
Orange,	6,938 73	4,680 40	11 55	11,630 68	975 08	2 41	978 49	260 13	4.80	240 00
Orleans,	1,190 19	290 85	–	1,481 04	62 01	–	62 01	58 10	4.69	234 50
Oxford,	54 30	131 52	–	185 82	89 47	–	89 47	68 31	1.47	73 50
Palmer,	2,434 60	2,287 97	534 38	5,256 95	239 83	56 01	295 84	156 87	9.54	477 00
Paxton,	7,531 72	3,781 97	7,559 58	18,873 27	1,050 55	2,099 88	3,150 43	415 16	3.60	180 00
Pembroke,	240 21	127 12	–	367 33	363 20	–	363 20	280 40	.35	17 50
Phillipston,	3,422 43	206 51	–	3,628 94	105 90	–	105 90	232 62	1.95	97 50

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Pittsfield,	12,530 36	2,882 33	236 74	15,649 43	454 63	37 34	491 97	345 92	6.34	317 00
Plainville,	3,834 33	935 53	2,659 56	7,429 42	516 87	1,469 37	1,986 24	820 93	1.81	90 50
Plymouth,	4,897 72	446 36	–	5,344 08	75 27	–	75 27	94 92	5.93	296 50
Princeton,	937 20	90	–	938 10	40	–	40	54 25	2.23	90
Provincetown,	498 28	264 95	–	763 23	240 86	–	240 86	105 27	1.10	55 00
Quincy,	5,043 25	415 50	1,009 21	6,467 96	181 44	440 70	622 14	460 35	2.29	114 50
Randolph,	1,922 86	159 13	1,026 63	3,108 62	115 31	743 93	859 24	358 13	1.38	69 00
Raynham,	356 27	95 98	–	452 25	64 85	–	64 85	44 42	1.48	74 00
Reading,	5,081 85	2,550 26	453 29	8,085 40	681 89	121 20	803 09	320 84	3.74	187 00
Rehoboth,	1,864 76	393 42	–	2,258 18	65 24	–	65 24	63 59	6.03	301 50
Revere,	4,991 73	475 98	33 86 3,390 87	8,892 44	380 78	2,739 78	3,120 56	718 87	1.25	62 50
Richmond,	2,904 14	217 50	–	3,121 64	54 10	–	54 10	114 89	4.02	201 00
Rochester,	2,101 13	99 56	–	2,200 69	18 89	–	18 89	70 58	5.27	99 56
Rockland,	422 96	421 46	–	844 42	179 34	–	179 34	75 59	2.35	117 50
Rockport,	136 77	119 65	–	256 42	127 29	–	127 29	70 06	.94	47 00
Rowley,	63 18	475 26	45 45	583 89	163 88	15 67	179 55	180 77	2.90	145 00
Russell,	13,794 79	3,363 21	550 95	17,708 95	504 99	82 73	587 72	221 75	6.66	333 00
Rutland,	283 36	270 18	–	553 54	232 91	–	232 91	119 29	1.16	58 00
Salem,	9 62	12 44	26 55	48 61	8 89	18 96	27 85	43 40	1.40	12 44
Salisbury,	1,042 98	82 29	906 76	2,032 03	57 55	634 10	691 65	337 54	1.43	71 50
Sandwich,	3,537 24	176 55	–	3,713 79	62 61	–	62 61	128 45	2.82	141 00
Saugus,	6,052 15	287 38	2,599 98	8,939 51	160 55	1,452 50	1,613 05	566 85	1.79	89 50

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Table showing the Amounts expended for Repairs, Maintenance, etc. — Continued.

TOWN OR CITY.	Amount expended.				Expended per Mile in 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
Scituate,	$2,060 08	$407 45	–	$2,467 53	$86 88	–	$86 88	$88 88	4.69	$234 50
Seekonk,	2,986 78	16 88	$6 15	3,009 81	6 12	$2.23	8 35	165 19	2.76	16 88
Sharon,	–	65 79	–	65 79	102 79	–	102 79	95 34	.64	32 00
Shelburne,	5,150 50	264 71	–	5,415 21	122 55	–	122 55	189 01	2.16	108 00
Shrewsbury,	24,680 70	1,948 26	2,490 70	29,119 66	400 88	512 49	913 37	587 68	4.86	243 00
Somerset,	11,529 86	667 23	591 82	12,788 91	96 70	85 77	182 47	211 59	6.90	345 00
Somerville,	–	400 19	–	400 19	344 99	–	344 99	357 31	1.16	58 00
Southampton,	102 52	139 77	–	242 29	211 77	–	211 77	89 74	.66	33 00
Southborough,	275 08	436 24	42 75	754 07	171 75	16 83	188 58	86 57	2.54	127 00
Southbridge,	897 21	87 97	4 00	989 18	64 68	2 94	67 62	128 13	1.36	68 00
South Hadley,	7,084 01	5,197 30	199 74	12,481 05	903 88	34 74	938 62	293 25	5.75	287 50
Spencer,	1,446 17	2,757 08	774 23	4,977 48	1,129 95	317 31	1,447 26	303 69	2.44	122 00
Sterling,	1,481 99	482 22	–	1,964 21	130 68	–	130 68	103 81	3.69	184 50
Stockbridge,	1,806 59	309 28	610 25	2,726 12	93 72	184 91	278 63	510 51	3.30	165 00
Stoneham,	5,805 40	625 04	417 99	6,848 43	393 11	262 89	656 00	450 25	1.59	79 50
Stoughton,	1,055 18	953 15	737 91	2,751 24	290 35	223 61	513 96	167 35	3.30	165 00
Sturbridge,	579 50	45 32	–	624 82	26 35	–	26 35	58 39	1.72	45 32
Sudbury,	11,440 06	2,338 63	3,276 24	17,054 93	457 66	641 14	1,098 80	402 81	5.11	255 50

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Sunderland,	548 36	90 98	–	639 34	58 32	–	58 32	85 24	1.56	78 00
Sutton,	2,279 17	250 52	–	2,529 69	109 88	–	109 88	145 71	2.28	114 00
Swampscott,	2,921 01	949 42	762 58	4,633 01	637 19	511 80	1,148 99	302 81	1.49	74 50
Swansea,	474 48	150 54	–	625 02	32 66	–	32 66	46 78	4.61	150 54
Taunton,	3,902 64	276 60	34 80	4,214 04	59 23	7 45	66 68	113 16	4.67	233 50
Templeton,	1,271 64	350 30	–	1,621 94	81 85	–	81 85	77 31	4.28	214 00
Tewksbury,	1,063 27	393 46	3,724 64	5,181 37	59 39	566 92	626 81	139 58	6.57	328 50
Tisbury,	1,824 33	101 22	–	1,925 55	52 45	–	52 45	69 61	1.93	96 50
Townsend,	2,115 51	713 60	–	2,829 11	13 16	–	13 16	65 23	5.42	271 00
Truro,	3,121 16	682 26	–	3,803 42	215 90	–	215 90	137 45	3.16	158 00
Tyngsborough,	3,878 12	565 30	–	4,443 42	117 28	–	117 28	120 30	4.82	241 00
Uxbridge,	1,006 84	133 60	–	1,140 44	48 23	–	48 23	55 71	2.77	133 60
Wales,	330 40	31 92	–	362 32	30 69	–	30 69	47 54	1.04	31 92
Walpole,	5,467 58	2,541 65	6,898 96	14,908 19	559 83	1,519 59	2,079 42	279 76	4.54	227 00
Ware,	1,474 32	683 43	–	2,157 75	234 86	–	234 86	99 84	2.91	145 50
Wareham,	2,498 18	3,080 62	3,152 39	8,740 19	488 86	498 78	987 64	246 48	6.32	316 00
Warren,	3,542 63	638 61	243 69	4,424 93	155 76	59 44	215 20	123 74	4.10	205 00
Watertown,	3,354 98	184 67	3,101 38	6,641 03	217 26	3,648 68	3,865 94	593 47	.35	42 50
Wayland,	6,083 09	4,306 10	476 66	10,865 85	1,669 03	184 75	1,853 78	457 51	2.58	129 00
Webster,	–	130 49	50 43	180 92	200 75	77 58	278 33	190 44	.65	32 50
Wellesley,	460 40	168 19	85	629 44	142 53	72	143 25	65 29	1.18	59 00
Wellfleet,	2,338 67	619 56	5 20	2,963 43	133 24	1 11	134 35	126 37	4.65	232 50
Wenham,	3,001 87	1,800 19	1,485 44	6,287 50	1,022 83	844 00	1,866 83	410 41	1.76	88 00

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Table showing the Amounts expended for Repairs, Maintenance, etc. — Concluded.

TOWN OR CITY.	Amount expended.				Expended per Mile in 1909.			Cost per Mile per Year.	Length under Maintenance (Miles).	Amount to be assessed on Cities and Towns.
	To 1909.	In 1909 from Revenue Appropriation.	In 1909 from Motor Vehicle Fees Fund.	Total.	From Revenue Appropriation.	From Motor Vehicle Fees Fund.	Total.			
Westborough,	$688 97	$159 75	–	$848 72	$53 43	–	$53 43	$51 31	2.99	$149 50
West Boylston,	1,675 94	398 06	–	2,074 00	256 81	–	256 81	120 51	1.55	77 50
West Bridgewater,	1,546 77	8,007 69	$758 96	10,313 42	2,534 08	$240 18	2,774 26	444 16	3.16	158 00
West Brookfield,	1,471 64	405 49	47 88	1,925 01	151 30	17 86	169 16	101 74	2.68	134 00
Westfield,	7,646 82	8,991 70	–	16,638 52	1,547 62	–	1,547 62	266 89	5.81	290 50
Westford,	1,998 32	263 23	–	2,261 55	80 99	–	80 99	103 02	3.25	162 50
Westminster,	15,048 66	660 42	1,860 08	17,569 16	125 79	354 30	480 09	365 26	5.25	262 50
West Newbury,	5,171 04	6,181 59	249 29	11,601 92	1,212 08	48 88	1,260 96	343 65	5.10	255 00
Weston,	5,546 00	1,541 31	1,829 04	8,916 35	489 30	580 65	1,069 95	283 05	3.15	157 50
Westport,	9,904 41	343 39	–	10,247 80	80 80	–	80 80	189 21	4.25	212 50
West Springfield,	1,550 40	3,907 37	1,099 86	6,557 63	2,045 74	575 84	2,621 58	373 01	1.91	95 50
West Tisbury,	1,779 16	–	–	1,779 16	–	–	–	36 43	5.35	–
Westwood,	1,712 03	21 56	338 52	2,072 11	20 53	322 40	342 93	211 43	1.05	21 56
Weymouth,	6,732 00	793 01	–	7,525 01	121 63	–	121 63	191 81	6.52	326 00
Whately,	1,686 79	5,204 05	633 14	7,523 98	1,317 48	160 29	1,477 77	311 42	3.95	197 50
Whitman,	1,698 10	73 87	–	1,771 97	43 45	–	43 45	76 47	1.70	73 87
Wilbraham,	3,459 73	802 50	186 67	4,448 90	166 49	38 73	205 22	104 53	4.82	241 00
Williamsburg,	2,979 65	764 18	–	3,743 83	288 37	–	288 37	150 77	2.65	132 50

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Williamstown,	7,143 80	194 37	1,412 85	8,751 02	93 00	676 00	769 00	370 64	2.09	104 50
Wilmington,	24 58	26 47	747 17	798 22	22 62	638 61	661 23	455 74	1.17	26 47
Winchester,	3,115 83	614 65	–	3,730 48	313 60	–	313 60	199 49	1.96	98 00
Winchendon,	30 72	53 41	–	84 13	31 42	–	31 42	35 49	1.70	53 41
Windsor,	693 97	22 05	–	716 02	11 85	–	11 85	81 27	1.86	22 05
Woburn,	1,980 20	399 11	–	2,379 31	196 61	–	196 61	151 16	2.03	101 50
Worcester,	7,593 04	6,393 81	2,802 42	16,789 27	1,563 28	685 19	2,248 47	460 99	4.09	204 50
Wrentham,	4,080 16	1,580 71	1,696 22	7,357 09	386 48	414 72	801 20	135 21	4.09	204 50
Yarmouth (north),	3,594 68	395 09	–	3,989 77	106 49	–	106 49	81 25	3.71	185 50
Yarmouth (south),	6,117 04	432 15	–	6,549 19	84 90	–	84 90	102 87	5.09	254 50

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Appendix G.

Statement showing the Number of Petitions received and the Length petitioned for, the Lay-outs made and their Length and Distribution in the Various Counties of the Commonwealth.

Counties.	Petitions received.				Petitions situated in —			Lay-outs made in —			Number of Lay-outs.
	County.	City.	Town.	Totals.	Cities.	Towns.	Totals.	Cities.	Towns.	Totals.	
Barnstable,	–	–	44	44	–	15	15	–	14	14	97
Berkshire,	15	11	53	79	2	25	27	2	15	17	90
Bristol,	2	6	44	52	2	17	19	1	17	18	89
Dukes,	2	–	5	7	–	5	5	–	5	5	24
Essex,	3	21	57	81	7	25	32	7	17	24	109
Franklin,	1	–	55	56	–	17	17	–	13	13	82
Hampden,	4	5	31	40	3	17	20	1	11	12	77
Hampshire,	1	6	45	52	2	17	19	1	12	13	73
Middlesex,	13	22	94	129	9	42	51	7	32	39	149
Nantucket,	–	–	1	1	–	1	1	–	1	1	14
Norfolk,	2	5	50	57	1	24	25	1	21	22	84
Plymouth,	–	7	61	68	1	24	25	1	19	20	116
Suffolk,	–	2	6	8	2	2	4	2	1	3	7
Worcester,	–	9	143	152	2	55	57	2	43	45	232
Totals,	43	94	689	826	31	286	317	25	221	246	1241

Number of Petitions received, etc. — *Concluded.*

Counties.	Lengths petitioned for.		Lengths laid out.					
			1894-1908.		1909.		Totals.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Barnstable,	692,667	131.19	432,549	81.93	32,172	6.09	464,721	88.01
Berkshire,	761,227	144.17	294,291	55.74	9,071	1.72	303,362	57.46
Bristol,	784,271	148.54	299,527	56.74	14,540	2.75	314,067	59.49
Dukes,	121,043	22.92	82,799	15.68	7,300	1.38	90,100	17.06
Essex,	1,125,110	213.09	289,328	54.80	26,871	5.09	316,199	59.89
Franklin,	593,139	112.34	201,540	38.16	10,677	2.02	212,217	40.18
Hampden,	648,350	122.79	243,564	46.13	12,050	2.28	255,618	48.41
Hampshire,	533,328	101.01	177,409	33.60	9,386	1.78	186,795	35.38
Middlesex,	1,620,647	306.94	543,542	102.94	9,854	1.87	553,396	104.81
Nantucket,	34,185	6.47	34,211	6.48	–	–	34,211	6.48
Norfolk,	698,511	132.30	273,562	51.81	4,749	.90	278,311	52.71
Plymouth,	1,041,530	197.26	416,239	78.84	18,486	3.50	434,725	82.33
Suffolk,	65,615	12.43	19,016	3.60	–	–	19,016	3.60
Worcester,	1,857,070	351.71	643,305	121.84	37,692	7.14	681,002	128.98
Totals,	10,576,693	2,003.16	3,950,882	748.27	192,852	36.53	4,143,740	784.79

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APPENDIX H.

TABLE SHOWING THE WORK DONE UNDER THE "SMALL TOWN" ACT SINCE ITS PASSAGE IN 1900.

[Section 17, Chapter 47, Revised Laws, and Chapter 279, Acts of 1908.]

TOWNS.	ALLOTMENTS.			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	
Barnstable County.							
Eastham,	$196 00	$400 00[1]	$596 00	1,150	–	1,150	Graded only.
Mashpee,	400 00	–	400 00	–	–	–	
Provincetown,	5,095 56	–	5,095 56[2]	9,930	–	9,930	Macadam.
Wellfleet,	1,653 00	–	1,653 00	2,250	–	2,250	Broken stone and clay.
	$7,344 56	$400 00	$7,744 56	13,330	–	13,330	
Berkshire County.							
Alford,	$869 00	$400 00	$1,269 00	3,363	1,300	4,663	Gravel.
Becket,	–	500 00[2]	500 00	–	1,250	1,250	Gravel.
Egremont,	2,396 00	550 00	2,946 00	5,106	2,350	7,456	Gravel.
Florida,	2,636 00	650 00	3,286 00	4,300	1,000	5,300	Gravel.
Lanesborough,	2,502 00	450 00	2,952 00	4,614	900	5,514	Gravel road and steel concrete bridge.

[1] Work not yet begun.

[2] Town contributed an equal amount.

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WORK DONE UNDER THE "SMALL TOWN" ACT — *Continued.*

TOWNS.	ALLOTMENTS.			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	
Berkshire County — Con.							
Monterey,	$1,918 00	$600 00	$2,518 00	10,720	1,300	12,020	Gravel and culverts.
Mount Washington,	1,392 00	400 00	1,792 00	2,080	700	2,780	Gravel road and bridge repairs.
New Ashford,	561 00	400 00[1]	961 00	2,600	–	2,600	Gravel road and culvert construction and repairs.
New Marlborough,	5,328 00	–	5,328 00	17,750	–	17,750	Gravel.
Otis,	2,368 00	600 00[2]	2,968 00	8,000	2,000	10,000	Gravel road and culvert repairs.
Peru,	1,391 00	600 00	1,991 00	6,795	1,550	8,345	Gravel.
Sandisfield,	5,860 00	500 00[1,2]	6,360 00	14,203	–	14,203	Macadam.
Savoy,	3,540 00	575 00	4,115 00	8,350	850	9,200	Gravel.
Sheffield,	5,088 00	1,400 00	6,488 00	10,032	1,650	11,682	Grading and gravel.
Tyringham,	2,565 00	200 00[1,2]	2,765 00	4,663	–	4,663	Grading and macadam.
Washington,	2,898 00	600 00	3,498 00	6,320	1,250	7,570	Grading and gravel.
West Stockbridge,	4,076 00	–	4,076 00	9,550	–	9,550	Gravel.
Windsor,	–	500 00	500 00[2]	–	580	580	Macadam.
	$45,388 00	$8,925 00	$54,313 00	118,446	16,680	135,126	
Bristol County.							
Easton,	$12,000 00	–	$12,000 00[2]	31,686	–	31,686	Macadam.
Norton,	4,176 00	–	4,176 00	7,950	1,900[3]	9,850	Macadam.
Westport,	–	$3,400 00	3,400 00[2]	–	6,150	6,150	Macadam.
	$16,176 00	$3,400 00	$19,576 00	39,636	8,050	47,686	

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Dukes County.							
Gay Head,	–	$400 00[1]	$400 00	–	–	–	
	–	$400 00	$400 00	–	–	–	
Essex County.							
Boxford,	$1,061 00	–	$1,061 00[2]	9,930	–	9,930	Gravel.
Danvers,	3,000 00	$2,000 00[4]	5,000 00[2]	4,000	–	4,000	Gravel.
Essex,	932 00	–	932 00[2]	22,000	–	22,000	Gravel and repairs.
Georgetown,	2,150 00	400 00	2,550 00[2]	7,037	2,560	9,597	Gravel and macadam.
Marblehead,	3,800 00	4,000 00	7,800 00[2]	5,500	5,508	11,008	Macadam.
Middleton,	2,244 00	400 00	2,644 00	6,700	1,550	8,250	Gravel.
North Andover,	–	500 00	500 00[2]	–	2,250	2,250	Gravel.
Salisbury,	1,948 00	–	1,948 00	2,150	–	2,150	Macadam.
Swampscott,	2,925 00	–	2,925 00[2]	5,200	–	5,200	Macadam.
Topsfield,	3,484 00	500 00[1,2]	3,984 00	20,575	–	20,575	Gravel.
	$21,544 00	$7,800 00	$29,344 00	83,092	11,868	94,960	
Franklin County.							
Bernardston,	$1,665 00	$600 00	$2,665 00	10,700	2,100	12,800	Gravel.
Charlemont,	1,000 00	–	1,000 00	–	1,754[3]	1,754	Gravel.
Conway,	4,352 00	–	4,352 00	8,010	–	8,010	Gravel.
Gill,	1,912 00	500 00	2,412 00	6,450	1,900	8,350	Gravel road and bridge repairs.
Hawley,	1,397 00	550 00	1,947 00	4,400	1,700	6,100	Grading and gravel.
Heath.	2,227 00	500 00	2,727 00	4,983	1,150	6,133	Gravel.

[1] Work not yet begun. [2] Town contributed an equal amount. [3] Built with 1908 allotment. [4] Work begun but not completed.

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WORK DONE UNDER THE "SMALL TOWN" ACT — *Continued.*

TOWNS.	ALLOTMENTS.			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	
Franklin County — Con.							
Leverett,	$3,776 00	$550 00	$4,326 00	9,607	1,722	11,329	Gravel.
Leyden,	2,793 00	–	2,793 00	10,700	–	10,700	Gravel.
Monroe,	2,098 00	600 00	2,698 00	4,250	600	4,850	Gravel.
New Salem,	3,152 00	400 00	3,552 00	4,080	4,657[1]	8,737	Gravel.
Rowe,	2,173 00	550 00	2,723 00	6,210	1,000	7,210	Gravel.
Shutesbury,	2,134 00	600 00	2,734 00	6,600	2,150	8,750	Gravel.
Warwick,	3,220 00	1,100 00[3]	4,320 00	6,450	–	6,450	Gravel.
Wendell,	4,488 00	750 00	5,238 00	9,050	1,150	10,200	Grading and gravel.
	$36,387 00	$6,700 00	$43,087 00	91,490	19,883	111,373	
Hampden County.							
Blandford,	$3,444 00	$1,000 00[2,4]	$4,444 00	8,400	–	8,400	Grading and gravel.
East Longmeadow,	680 00	–	680 00	2,850	–	2,850	Gravel.
Granville,	4,223 00	–	4,223 00	7,197	–	7,197	Grading and gravel.
Hampden,	3,008 00	400 00	3,408 00	29,400	2,150	31,550	Gravel.
Holland,	164 00	–	164 00	425	–	425	Grading.
Longmeadow,	1,200 00	–	1,200 00[4]	1,425	–	1,425	Macadam and 128 feet of concrete culvert.
Montgomery,	1,020 00	400 00	1,420 00	2,450	650	3,100	Gravel.

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Russell,	–	[1,000 00[2]	1,000 00[4]	–	–	–	
Southwick,	1,928 00	1,100 00	3,028 00	5,750	6,050	11,800	Gravel.
Tolland,	2,542 16	600 00	3,142 16	4,100	1,400	5,500	Grading and concrete culvert.
	$18,209 16	$4,500 00	$22,709 16	61,997	10,250	72,247	
Hampshire County.							
Amherst,	$2,900 00	$1,900 00	$4,800 00[4]	2,260	2,175	4,435	Macadam.
Chesterfield,	2,920 00	400 00	3,320 00	4,125	400	4,525	Gravel.
Cummington,	3,083 00	550 00	3,633 00	7,895	700	8,595	Gravel.
Enfield,	2,664 00	1,650 00	4,314 00	18,310	5,300	23,610	Gravel.
Greenwich,	976 00	700 00	1,676 00	1,200	1,700	2,900	Gravel.
Huntington,	–	800 00[4]	800 00	–	2,175[5]	2,175	Gravel.
Middlefield,	1,260 00	450 00	1,710 00	2,700	1,500	4,200	Gravel.
Pelham,	2,470 00	–	2,470 00	3,700	1,600[6]	5,300	Gravel.
Plainfield,	2,380 00	400 00[3]	2,780 00	3,866	–	3,866	Gravel.
Prescott,	2,130 00	600 00	2,730 00	3,660	850	4,510	Grading and gravel.
Southampton,	–	500 00[3]	500 00[4]	–	–	–	
Westhampton,	3,059 00	–	3,059 00	9,743	–	9,743	Gravel.
Worthington,	4,327 00	1,700 00[7]	6,027 00	6,850	700	7,550	Gravel.
	$28,169 00	$9,650 00	$37,819 00	64,309	17,100	81,409	
Middlesex County.							
Ayer,	$4,000 00	–	$4,000 00	17,600	–	17,600	Gravel.
Belmont,	2,300 00	–	2,300 00[4]	5,237	–	5,237	Macadam.

[1] Includes 3,507 feet built with 1908 allotment.
[2] Work begun but not completed.
[3] Work not yet begun.
[4] Town contributed an equal amount.
[5] Slight repairs also made on 7½ miles.
[6] Built with 1908 allotment.
[7] $1,000 not yet contracted for; town also contributed $1,000.

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Work done under the "Small Town" Act — *Continued.*

Towns.	Allotments.			Lengths built (Feet).			Types of Roads.
	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	
Middlesex County — Con.							
Billerica,	$3,484 00	$2,500 00[1]	$5,984 00[2]	4,700	–	4,700	Macadam.
Burlington,	–	2,500 00[3]	2,500 00[2]	–	–	–	
Carlisle,	1,836 00	–	1,836 00	13,150	–	13,150	Gravel.
Dunstable,	1,399 00	–	1,399 00	8,150	–	8,150	Gravel.
Hudson,	3,000 00	–	3,000 00[2]	10,857	–	10,857	Graded only.
Littleton,	1,012 00	1,000 00[3]	2,012 00[2]	4,492	–	4,492	Gravel.
Maynard,	9,383 89	–	9,383 89[2]	15,233	–	15,233	Grading, macadam and bridge repairs.
North Reading,	–	3,000 00	3,000 00[2]	–	6,500	6,500	Macadam.
Pepperell,	1,000 00	–	1,000 00[2]	2,550	1,500[4]	4,050	Gravel.
Reading,	1,132 00	1,000 00	2,132 00[2]	2,050	900	2,950	Macadam.
Sherborn,	4,558 00	500 00	5,058 00[2]	19,100	8,000	27,100	Gravel.
Shirley,	3,834 00	1,000 00[2]	4,834 00	10,350	9,700	20,050	Gravel.
Stow,	3,145 00	–	3,145 00	6,800	–	6,800	Gravel.
Wakefield,	5,150 00	–	5,150 00[2]	6,986	–	6,986	Macadam.
Westford,	2,366 30	–	2,366 30[2]	5,400	–	5,400	Gravel.
	$47,600 19	$11,500 00	$59,100 19	132,655	26,600	159,255	

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Norfolk County.							
Avon,	$2,569 00	$400 00	$2,969 00	7,835	455	8,290	Gravel and macadam.
Bellingham,	1,412 00	–	1,412 00	2,750	–	2,750	Macadam.
Medfield,	1,040 00	–	1,040 00[2]	720	–	720	Macadam.
Medway,	4,828 00	–	4,828 00[2]	11,256	–	11,256	Macadam.
Millis,	3,036 00	1,000 00[1]	4,036 00	3,600	2,800[5]	6,400	Gravel.
	$12,885 00	$1,400 00	$14,285 00	26,161	3,255	29,416	
Plymouth County.							
Abington,	–	$1,600 00	$1,600 00[2]	–	3,500	3,500	Macadam.
Carver,	$10,090 00	1,900 00	11,990 00[2]	31,194	5,445	36,639	Macadam.
East Bridgewater,	4,142 87	–	4,142 87[2]	6,250	–	6,250	Macadam.
Halifax,	2,304 00	500 00[3]	2,804 00	5,275	–	5,275	Macadam.
Hanover,	2,368 00	–	2,368 00[2]	2,827	–	2,827	Macadam.
Hanson,	7,992 00	1,000 00	8,992 00[2]	22,984	3,215	26,199	Macadam.
Lakeville,	700 00	–	700 00	2,640	–	2,640	Macadam.
Norwell,	2,080 00	–	2,080 00[2]	8,980	–	8,980	Gravel.
Pembroke,	2,848 00	1,700 00	4,548 00	20,471	8,000	28,471	Gravel.
Plymouth,	–	1,000 00[1]	1,000 00[2]	–	–	–	Sand and oil.
Plympton,	1,817 00	400 00	2,217 00	12,518	2,135	14,653	Gravel.
Rochester,	4,500 00	–	4,500 00	19,027	–	19,027	Macadam.
	$38,841 87	$8,100 00	$46,941 87	132,166	22,295	154,461	

[1] Work begun but not completed.
[2] Town contributed an equal amount.
[3] Work not yet begun.
[4] Built with balance of 1906 allotment.
[5] Built with 1908 allotment.

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Work done under the "Small Town" Act — *Concluded.*

TOWNS.	Allotments.			Lengths built (Feet).			Types of Roads.
	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	
Worcester County.							
Ashburnham,	$3,144 00	$500 00[1]	$3,644 00	4,750	850	5,600	Gravel.
Berlin,	3,224 00	400 00	3,624 00	10,375	2,508	12,883	Gravel.
Bolton,	3,614 00	600 00	4,214 00	19,135	3,700	22,835	Gravel.
Boylston,	1,560 00	800 00	2,360 00	5,100	3,430	8,530	Gravel.
Brookfield,	900 00	–	900 00	2,500	–	2,500	Macadam.
Dana,	2,069 00	800 00	2,869 00	5,450	1,925	7,375	Gravel.
Hubbardston,	3,085 00	–	3,085 00	6,655	–	6,655	Gravel.
Mendon,	3,464 00	–	3,464 00	16,675	–	16,675	Gravel and repairs.
New Braintree,	–	450 00	450 00	–	1,400	1,400	Macadam.
Oakham,	2,918 00	500 00	3,418 00	8,210	1,200	9,410	Gravel and macadam.
Oxford,	800 00	800 00	1,600 00[1]	3,050	3,150	6,200	Gravel.
Petersham,	5,960 00	1,000 00[2]	6,960 00	6,135	2,500[3]	8,635	Gravel.
Rutland,	1,804 00	–	1,804 00	2,581	–	2,581	Gravel and macadam.
Southbridge,	6,400 00	–	6,400 00[1]	2,293	–	2,293	Vitrified paving brick (paved).
Winchendon,	4,000 00	–	4,000 00[1]	9,210	–	9,210	Gravel.
	$42,942 00	$5,850 00	$48,792 00	102,119	20,663	122,782	

[1] Town contributed an equal amount. [2] Work not yet begun. [3] Built with 1908 allotment.

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SUMMARY.

COUNTIES.	ALLOTMENTS.			LENGTHS BUILT (FEET).		
	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.	Previous to 1909.	In 1909.	Total to Nov. 30, 1909.
Barnstable,	$7,344 56	$400 00	$7,744 56	13,330	-	13,330
Berkshire,	45,388 00	8,925 00	54,313 00	118,446	16,680	135,126
Bristol,	16,176 00	3,400 00	19,576 00	39,636	8,050	47,686
Dukes,	-	400 00	400 00	-	-	-
Essex,	21,544 00	7,800 00	29,344 00	83,092	11,868	94,960
Franklin,	36,387 00	6,700 00	43,087 00	91,490	19,883	111,373
Hampden,	18,209 16	4,500 00	22,709 16	61,997	10,250	72,247
Hampshire,	28,169 00	9,650 00	37,819 00	64,309	17,100	81,409
Middlesex,	47,600 19	11,500 00	59,100 19	132,655	26,600	159,255
Norfolk,	12,885 00	1,400 00	14,285 00	26,161	3,255	29,416
Plymouth,	38,841 87	8,100 00	46,941 87	132,166	22,295	154,461
Worcester,	42,942 00	5,850 00	48,792 00	102,119	20,663	122,782
	$315,486 78	$68,625 00	$384,111 78	865,401	156,644	1,022,045

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Appendix I.

Relating to the Planting and Care of Shade Trees.

Report of Mr. F. W. Rane, State Forester.

Boston, Mass., Dec. 31, 1909.

Hon. Harold Parker, *Chairman, Massachusetts Highway Commission, 15 Ashburton Place, Boston, Mass.*

Dear Sir: — I submit herewith a brief report concerning the work done against the gypsy and brown-tail moths on State highway trees under the direction of this department during the past year.

The work has been carried on by this department as in previous years, and it has been given as much attention as possible. Also, we have endeavored to do the necessary work against the elm-leaf beetle. It has not been necessary during this year's campaign to do as much thinning on the State highways as in previous years. We have also been very fortunate in getting the federal authorities to take up some work on State highways that has helped us considerably, and has been no expense to the Commowealth. The elm-leaf beetle problem has been a serious one the past year, and possibly has not been given as much attention as it should have had, as the infestation in some cases was new and unexpected. In the coming year we feel that it will be necessary to have larger appropriation if the elm-leaf problem is to be cared for properly, and it should be taken up at an early date, as part of the infestation occurs in cities and towns where we are doing very little spraying for the gypsy moth. The work of destroying the gypsy moth egg clusters and removing the brown-tail webs has been nearly completed at the present time, although there are a few remaining miles of road to be done in the near future.

We also wish to recommend the removal, if possible, by the State Highway Commission, of some of the trees on the highways where they are in large numbers, — more than are needed for good shade.

Work was done at a total cost of $5,079.56 on the State highways in the following towns and cities: —

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Abington.
Acton.
Amesbury.
Ashland.
Barnstable.
Bedford.
Bellingham.
Bourne.
Boxborough.
Bridgewater.
Brewster.
Brockton.
Chatham.
Chelmsford.
Cohasset.
Concord.
Dracut.
Duxbury.
Falmouth.
Foxborough.
Framingham.
Franklin.
Gloucester.
Groton.
Hamilton.
Hanover.
Harvard.
Harwich.
Haverhill.
Hudson.
Kingston.
Lancaster.
Leominster.
Lunenburg.
Marlborough.
Marshfield.
Melrose.
Merrimac.
Methuen.
Middleborough.
Natick.
Needham.
Newbury.
Newburyport.
Norfolk.
Northborough.
Orleans.
Pembroke.
Plainville.
Quincy.
Raynham.
Reading.
Rockland.
Salisbury.
Scituate.
Shrewsbury.
Southborough.
Stoneham.
Stoughton.
Sudbury.
Swampscott.
Taunton.
Tewksbury.
Townsend.
Truro.
Tyngsborough.
Walpole.
Watertown.
Wellesley.
Wellfleet.
Wenham.
West Bridgewater.
Westborough.
Westford.
Weston.
Westwood.
Weymouth.
Winchester.
Wrentham.
Yarmouth.

Yours very truly,

F. W. RANE,
State Forester.

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Report of Forester of Highway Commission.

Clinton, Mass., Dec. 10, 1909.

To the Massachusetts Highway Commission.

Gentlemen: — At the beginning of the year all trees growing within the limits of the State highway were given to the forester to care for; this included many large trees that had received little or no attention for several years. Without any additional appropriation this work has been carried on.

A large number of dead and worthless trees have been removed, also many dead branches. The growth of brush on the curves has been removed or thinned back to the location line, to aid automobilists in seeing the road as far ahead as possible.

In the early part of the season trees were found that had been injured by the feed wires of the electric street railways. The companies were asked to protect their wires, which they have done, and as a result many trees have been saved an early death.

The telephone and electric light companies have done tree trimming under the direction of the forester, in the interest of the trees. Wild cherry and neglected fruit trees have been removed, as their chief value was the harboring of insect pests.

Owing to our limited appropriation, the native growth, consisting of tree seedlings and sprouts, has received but little attention. In this work there is much that ought to be done to help materially in coming years.

The young trees that have been planted have done as well as the season would allow. Owing to the extreme drought, it was necessary to water some of them, and as a result they came through in very good condition. Our loss during the year has been a little less than 6 per cent., due in most cases to conditions beyond our control.

In order to reduce the number of weeds that naturally grow about the planted trees, the dressing this year was placed under the roots of the newly planted trees, instead of over them as a mulch, as previously done. To further aid in keeping a neat appearance, an experiment was made in Chester of sowing white clover seed around the tree to crowd out the weeds; later this is to be dug into the soil for its fertilizing value.

The trees in the nursery did well during the summer. A large proportion of these are young trees that will be used for planting a few years hence.

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New trees planted in 1909,	730
Total trees planted in six years,	13,666
Trees replaced in 1909,	794
Trees on hand in nursery,	1,070
Small trees on hand in nursery,	4,084
Total number of towns in which trees have been planted,	58
Number of towns in which native trees have been trimmed in 1909,	43
Number of towns in which trees have been inspected in 1909,	163

The average cost of new planting in 1909 was $0.74 each, to which should be added the cost of preparing the ground last year, $0.49 each, making the total cost $1.23 each.

The cost of maintenance this year was $0.22 per tree.

Respectfully submitted,

E. W. BREED,
Forester.

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VARIETIES AND DISTRIBUTION OF SHADE TREES PLANTED IN 1909.

Trees replaced.

TOWN OR CITY.	American Elm.	Norway Maple.	Sugar Maple.	White Maple.	American Ash.	English Ash.	Green Ash.	Russian Willow.	Laurel-leaf Willow.	Ash-leaf Maple.	Red Oak.	American Linden.	Total.
Adams,	1	-	-	-	-	-	-	-	2	-	-	-	3
	47	-	-	4	1	-	-	-	-	-	-	-	51
Agawam,	-	-	22	-	-	-	-	-	-	-	-	-	22
Amherst,	3	-	9	2	4	-	-	-	-	-	-	-	18
Andover,	10	-	-	6	12	-	-	-	-	-	2	-	30
Ashby,	2	-	-	-	-	-	-	-	-	-	-	-	2
Athol,	8	9	-	-	-	9	7	-	-	-	-	-	33
Brewster,	-	12	-	8	-	-	8	-	-	3	-	-	20
Brookfield,	-	10	-	-	-	11	-	-	-	-	-	-	32
Chatham,	-	-	-	-	3	-	-	-	-	-	-	-	3
Chelmsford,	4	1	-	-	1	-	-	1	-	-	-	-	7
Cheshire,	10	4	-	4	-	-	-	1	-	-	-	-	11
Dennis,	1	-	-	-	-	-	-	-	-	-	-	-	2
Fitchburg (north),	1	4	-	-	-	-	-	-	-	-	-	-	41
Fitchburg (west),	1	-	-	-	-	-	-	-	2	-	1	-	35
Gardner,	14	-	-	-	22	-	-	3	4	-	-	-	31
Hadley,	5	79	7	-	-	-	-	6	1	-	-	-	14
Hancock,	-	25	-	-	-	-	-	3	-	-	-	-	1
Hatfield,	-	-	11	-	-	-	-	-	-	-	-	-	1
Lee (east),	-	-	-	-	2	-	-	1	-	-	-	-	12
Lee (north),	1	-	-	-	25	-	-	-	-	-	-	-	-
Lenox (north),	1	10	-	-	-	-	-	-	-	-	-	-	7
Lenox (south),	2	-	-	6	-	-	-	1	-	-	-	-	9
Lowell (north),	-	-	6	1	-	-	-	-	-	-	-	-	28
Lowell (south),	-	-	-	-	-	-	-	-	-	-	-	-	7
Montague,	3	1	-	-	2	-	-	-	-	-	-	5	5
North Adams (south),	1	3	-	-	5	-	-	-	-	-	-	-	6
North Adams (west),	2	-	-	-	-	-	-	-	-	-	-	-	
Northampton (Smith's Ferry),	5	-	-	-	-	-	-	-	-	-	-	-	

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VARIETIES AND DISTRIBUTION OF SHADE TREES PLANTED IN 1909 — *Concluded.*

New Planting.

TOWN OR CITY.	American Elm.	Norway Maple.	Sugar Maple.	English Ash.	American Ash.	Russian Willow.	Totals.
Chester,	164	–	–	30	24	5	223
Dennis,	6	–	–	–	–	–	6
Easthampton (north),	–	102	–	–	–	–	102
Easthampton (south),	–	–	120	–	–	–	120
Huntington,	7	–	6	24	–	–	37
Northampton (south),	17	57	33	–	–	18	125
Northampton (Smith's Ferry),	–	–	–	50	67	–	117
Totals,	194	159	159	104	91	23	730

In addition to the above, 119 seedling ash have been planted in 6 towns.

On hand in nursery Dec. 1, 1909: large trees: American elms, 365; Norway maples, 40; white maples, 4; American Ash, 89; red oak, 25; laurel-leaf willows, 85; American lindens, 49; black locusts, 18; Scotch elms, 52; sugar maples, 18; ash-leaf maples, 25; English ash, 173; English oak, 5; Russian willows, 85; tulip, 22; white poplars, 15; total, 1,070.

Small trees: American elms, 865; green ash, 299; pin oak, 125; American linden, 99; laurel-leaf willows, 108; white ash, 2,156; scarlet oak, 89; white maple, 282; Russian willow, 61; total, 4,084.

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APPENDIX J.

RELATING TO THE WORK OF THE AUTOMOBILE DEPARTMENT.

Statement showing the Number of Registration Certificates and Licenses to operate issued during the Fiscal Year 1909, also the Fees received for the same, together with the Fees for Examinations of Professional Chauffeurs and for Copies of Certificates of Registration and Licenses, etc.

Certificates of registration: —			
Automobiles,	23,971 at	$5 00	$119,855 00
Motor cycles,	2,394 at	2 00	4,788 00
Manufacturers or dealers,	491 at	15 00	7,365 00
Licenses to operate: —			
Private operators,	8,336 at	2 00	16,672 00
Professional chauffeurs,	3,289 at	2 00	6,578 00
Renewals,	6,626 at	50	3,313 00
Examinations,	4,630 at	2 00	9,260 00
Copies of certificates and licenses furnished,	1,807 at	50	903 50
Receipts from other sources, viz., interest on deposits, motor vehicle signs, and rebates on empty tar and oil barrels,			1,239 04
Total receipts for the year,			$169,973 54

REPORT OF EXAMINERS AND INVESTIGATORS.

AUSTIN B. FLETCHER, *Secretary, Massachusetts Highway Commission.*

DEAR SIR: — The examiners and investigators beg to submit the following as their third annual report, covering the period from Dec. 1, 1908, to Dec. 1, 1909. Statistical tables containing the data for this department are handed you herewith.

Examinations.

Examinations of applicants for professional licenses have been conducted during the past year in 16 different cities within the borders of the Commonwealth, and once, by request, in Pawtucket, R. I. Special examinations have been held in Concord, Easthampton, Greenfield, Holyoke, Lawrence and Rockport. Regular appointments have been made, as in the two previous years, in 9

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cities of the Commonwealth besides Boston. The examinations held in Boston have been conducted by F. L. Austin and C. G. Hubbell; those in Fitchburg, Brockton, New Bedford, Fall River, Lowell and Salem by C. G. Hubbell; those in Pittsfield, Springfield and Worcester by A. F. Foote. Mr. William MacConnell has from time to time examined applicants in the several cities mentioned, as occasion demanded. The number of applicants from Springfield and vicinity have so increased that during the summer months one examiner was obliged to devote a whole day to meeting the applicants in that city, while another examiner went to Worcester.

The nature of the examinations has changed in two respects. The written part of the examination has been shortened and hence made easier than heretofore, but the road test has been more severe. About April 1 the examination paper formerly used, which consisted of twenty-five questions, was discontinued, and a paper half as long, consisting of nine questions relating to the laws and three relating to the mechanical control and proper operation of a motor vehicle, was substituted. Moreover, instead of using the same paper day after day, a series of six papers was adopted, including one for operators of steam-propelled vehicles. Each week a different paper in the series is used, so that an applicant on the second or subsequent examination seldom, if ever, has the same questions to answer. This has done away almost entirely with that learning and answering questions by rote which was so evident among a certain class of applicants last year. This change was made, furthermore, in order to bring about in the examinations what may be termed a change of emphasis. It was felt that the written part, although not very exacting, was too long, and had the effect of preventing some men from obtaining licenses, although they were thoroughly competent operators. The written part, therefore, was shortened, and the percentage and standard for the road test were raised.

The adoption by the Boston board of street commissioners, on Jan. 1, 1909, of their "Street Traffic Regulations and Rules for Driving" has tended to make the examiners more strict in observing how applicants obey those regulations, especially with reference to passing electric cars that had stopped to allow passengers to alight; also as to their consideration for other vehicles and pedestrians, and as to making crossings and turning corners properly. Whenever an applicant has failed in the road test an effort has been made to give, on the back of his examination paper, the specific reasons why he failed. This plan has worked out well in satis-

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fying the minds of those who have complained because they did not pass; but, in general, it may be said that the applicants admit the justice of the examiners' decisions, and in more than one instance they have afterwards even expressed their thanks to the examiner for requiring of them more road experience.

In comparison with the figures of last year, the following special features may be noted: —

	1908.	1909.
Total number of persons examined,	2,666	3,473
Total number of examinations,	3,290	4,629
Per cent. examined in Boston,	59.30	56.58
Per cent. failed Part I. on first examination,	11.25	9.93
Per cent. failed Part II. on first examination,	16.15	21.68
Total number persons passed,	2,379	3,149
Total number persons failed to receive license,	287	324
Total per cent. failed to receive a license,	10.76	9.33
Total number failed on first examination,	730	1,098
Total per cent. failed on first examination,	27.38	31.61
Total number failures on Part II.,	559	1,044

As already stated, the written examination, or Part I., has been simplified, which accounts for the small percentage of 9.93 failing on that part in 1909, as against 11.25 per cent. in 1908; and this, as plainly shown in the sequel, accounts for the smaller total percentage of failures this year than last, — 10.76 in 1908 and 9.33 in 1909. It will be observed, however, that while only 27.38 per cent. failed on their first examination (including both Part I. and Part II.) in 1908, 31.61 per cent. failed in 1909. More striking is the higher percentage of failures in the first road test this year as compared with last, — 16.15 in 1908 and 21.68 in 1909. Still more significant is the fact that while the whole number of examinations has increased over 40 per cent., the number of failures in the

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road test during 1909 has increased very nearly 87 per cent. The number of persons examined shows a 33 per cent. increase, and out of the total number of applicants, 324 gave up the attempt to become chauffeurs and failed to receive licenses. There is reason to believe that the applicants now come better prepared for the examination than they did last year, and it seems to be the general impression in automobile circles that it is now more difficult to obtain a Massachusetts license than ever before.

The condition of the vehicles in which the applicants present themselves for the road test is a subject that calls for comment. During the year the examiners have refused a number of times to accept for demonstration automobiles which were unfit to be operated and a menace to the public safety. There has been some improvement in this respect, but notwithstanding the ample notice they receive to furnish an automobile which is in good running order, and with which they are familiar, many still come with old, almost broken-down cars, lacking adequate brakes, a muffler, horn or some other essential part of their equipment. In this connection may be mentioned the case of those applicants who come with either large trucks or small pleasure vehicles propelled by electric power. The examiners favor the restriction of the licenses issued in such cases to the operation of electric vehicles only. The examiners have already recommended in some instances that this be done, and they would now recommend that this be done in future (under the authority granted in the automobile law for 1909) more than has been done in the past.

A further movement in the direction of restriction seems desirable in cases where applicants fail to pass. At present a lapse of two weeks is required between the first, the second and third road tests, and where an applicant on the third examination shows no improvement, and that he is a dangerous operator, it has been the policy of the department to refuse to give him another examination for three months. We respectfully recommend that it may be made a rule that, after a second test on the road, applicants be required to wait for at least one month before taking a third examination.

Investigations and Prosecutions.

Two hundred and forty-one cases have been investigated during 1909. In 33 cases, mostly located in the middle and western part of the State, the offenders have been prosecuted and convicted.

As to the districts covered by the several inspectors, all cases

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occurring in the middle and western part of the State have been investigated by Mr. A. F. Foote. In addition, Mr. Foote has given about half of his time to conducting examinations in the same territory. All cases occurring in the eastern and southern part of the State have been investigated by Messrs. Paul H. Weinert and William MacConnell, the latter having been appointed inspector and examiner July 15, 1909.

The sources of information on which investigations have been based were chiefly three: newspaper accounts of accidents; letters of complaint received by the commission, and accounts of accidents forwarded by the Safe Roads Automobile Association. With regard to these last-mentioned cases a large majority of them had already been considered or referred to the inspectors before they were called to our attention by the association.

If the work in this branch of the department continues to increase during the coming year as it has during 1909, it will probably be necessary to secure the services of another investigator in order to give due attention to cases in the southern district. The same man might also conduct the examinations held in Brockton, New Bedford and Fall River. Throughout the year considerable of the time of the inspectors has been devoted to attending hearings held by the Board. Outside the regular work done by the inspectors, as shown in their formal reports, they have been called upon to investigate complaints of a minor nature, and to obtain information of various kinds which has been requested by the Board.

Tabulation of Accidents.

In keeping with the general increase in the demands upon the automobile department, this branch of the work has grown proportionately, involving more and more clerical labor. Clippings referring to not less than 1,130 accident cases have been received. A daily record, based on the information contained in those clippings, has been kept, showing all automobile accidents and collisions in a carefully analyzed tabulation. The greater part of the time of one clerk is required to attend to this tabulation of accidents, the filing of cards and the keeping of the court records. Besides the daily record, a monthly compilation is made. A comparison of a few of the figures for five months of 1908 with figures for the corresponding months of 1909 is given below; also figures for the full twelve months of 1909.

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Deaths, Injuries, Collisions.

	1908[1]	1909[1]	1909[2]
Total number killed,	13	37	54
Total number injured,	486	558	989
Total number collisions,	607	619	1,130
Total number collisions in daytime,	379	453	826
Total number collisions after dark,	228	166	304
Total number collisions on country roads,	214	183	314
Total number collisions on city or town streets,	393	436	816

[1] From July 10 to December 1.
[2] Twelve months, January 1 to December 31.

The most marked difference to be noted in the comparison above is that relating to "collisions after dark." There has been nearly a 25 per cent. decrease in such collisions. The figures would seem to indicate that there is less "joy riding" at night than formerly.

Court Abstracts.

We have on hand upwards of 4,000 court abstracts, received since Jan. 1, 1909. A tabulation of the information contained in them, analyzed under twenty-three separate headings, is appended.

Before it is filed, each abstract requires the following clerical operations: an entry is made in a specially printed record book. The receipt of the card is acknowledged. When, as frequently happens, the address of the defendant is lacking, a letter is written requesting it. The records are searched carefully to discover what other offences, if any, against the automobile law the defendant has committed. When it is found that the defendant has been convicted three times within the calendar year, and whenever any conviction is of a more serious nature, such as reckless operation or intoxication, the abstracts are sent immediately to the secretary of the commission.

During the year many inquiries have been made in person and by telephone regarding the information contained in the abstracts. These inquiries have come for the most part from clerks of courts, police stations, operators and chauffeurs. This use of the court abstracts has steadily increased since the beginning of the year.

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It may be noted that the number of abstracts is almost twice as large this year as it was last, and that considerable time is required to attend to them. Some difficulty has been experienced in obtaining abstracts from the courts, but by the persistent writing of letters to the clerks of courts, they have become accustomed to making returns. Some courts, however, still fail to make any returns whatever; hence the probability is that the number of abstracts received would have been much larger had they all been sent in promptly.

Comparing the analysis and summaries of the abstracts of last year with the same for this year, it will be seen that not only is the number of abstracts very much larger, but under every heading in the analysis the offences are much more numerous. But from the figures alone it is not to be inferred that there were more convictions, more cases of reckless operation, intoxication and so forth. The fact that the clerks of courts have apparently learned to send in the abstracts more faithfully than formerly accounts for much of the increase.

F. L. AUSTIN,
Chief Examiner.

ANALYSIS OF THE ABSTRACTS OF COURT RECORDS FOR THE YEAR 1909.

Whole number of abstracts received,	4,271
Persons convicted of unlawful automobiling,	3,892
Number of appeals taken to a higher court,	264
Persons found not guilty,	163
Complaints placed on file,	482
Complaints nol-prossed,	72
Defendants defaulted,	29
Convictions: —	
For overspeeding,	2,574
For reckless operating,	82
For operating while intoxicated,	31
For improper display or lack of register numbers,	155
For operating without carrying license,	245
For operating without carrying registration certificate,	86
For operating an unregistered motor vehicle,	69
For refusing to stop when signalled by officer,	54
For operating with unlighted lamps,	229
For operating without numbers on lamps,	60
For violations of park rules,	186
For failing to give signal when approaching an intersecting way,	344
For miscellaneous offences,	301
Persons sentenced to prison,	8

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APPENDIX K.

RELATING TO STATE HIGHWAY TRAFFIC CENSUS.

REPORT OF SECRETARY.

To the Massachusetts Highway Commission.

GENTLEMEN: — Pursuant to your instructions, I have the honor to submit the following account of two records made during the year 1909 of the traffic over the Massachusetts State highways.

Introductory.

The commission, which was organized in the year 1893, began in the following year to construct the State highways, and at the end of the year 1908 740 miles of road had been completed, the roads being mostly of the macadam type of construction.

Previous to the present year, while some records of the traffic had been made in special cases and for particular purposes, no comprehensive study of the vehicular traffic over the State highways had been made. The value of such records was not unrecognized, but the labor involved and the cost of such a general study seemed to be prohibitive.

The obvious changes, however, in the nature of the vehicles using the roads, together with the apparent inadequacy of the water-bound macadam road to withstand the wear of the new self-propelled vehicles, which have multiplied in numbers and in mobility so fast since the year 1906, seemed to make necessary a comprehensive census of the vehicles and of their characteristics. It was likewise apparent that more knowledge was required concerning the present importance of the routes upon which the State highways were located, so that future work in constructing the roads may be done in locations where it is most needed.

Stated briefly, the chief needs of such records were: —

1. To determine the relative importance of the different routes of travel.

2. To secure at least a rough approximation of the relative use of such routes by motor vehicles and by horse-drawn vehicles.

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Methods employed.

Since untrained observers only could be secured, the data recorded were as simple as possible, and the tally cards were prepared carefully, so as to leave little or nothing to the judgment of the observers. A reproduction of the tally card will be found in Exhibit A.

No attempt was made to secure records which would determine the volume of traffic in terms of weight, per unit of width of roadway, per unit of time. Such records would be of the greatest value to the commission in its work, but because of the expense involved such a determination would have been impossible.

The following classes of traffic only were observed: single horse (light vehicles); single horse (heavy vehicles); two or more horses (light vehicles); two or more horses (heavy vehicles); automobiles (runabouts); automobiles (touring cars).

In the instructions furnished to the observers a "light vehicle" was stated to mean "a buggy, carryall, democrat wagon or any other vehicle, other than an automobile, which is used usually for pleasure or light business purposes." A "heavy vehicle" was defined as "a farm wagon, milk wagon, tipcart, grocery or provision wagon, or any other vehicle, except an automobile, which is used for carrying heavy loads."

Two separate records were taken, the first in the month of August, beginning on Sunday, August 23, at 7 A.M., and continuing for fourteen hours each day, until 9 P.M. on the following Saturday evening.

The second census began on Sunday, October 10, at 7 A.M., and continued for the full week in precisely the same way as in August.

The August records were taken advisedly, so as to show the abnormal summer travel, particularly that in automobiles, and the October census was expected to indicate the normal traffic conditions which may fairly be considered to apply during the months of March, April, May, September, October and November. During the winter months the roads of Massachusetts are usually either frozen or are covered with snow or ice.

In August, the week chosen proved to be a period of almost perfect weather. There was no storm, and only very light showers were reported and those only in a few localities. In October, however, there were two days on which fairly heavy rains were generally reported.

For the August records 237 observers were employed, and in

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October 240 observers' stations were established. Arrangements for the employment of the observers were made by the division engineers, and in most cases boys and girls in advanced grades of the public schools were selected, although in some instances the repair agents of the commission kept the records. The observers generally were interested in the work, and it is believed that the results of the census are as accurate as should be expected. Both weeks selected were normal in that there were no county fairs or other unusual events which would affect the traffic. On the other hand, the two rainy days during the week of the October census were perhaps rather more than the average week usually contains.

The census cost as follows: —

	August.	October.
Observers' pay, ...	$2,217 53	$2,159 70
Printing and postage, ...	159 31	57 40
Clerical work, ...	25 10	41 60
	$2,401 94	$2,258 70
Average cost per station, ...	$10 14	$9 41

The observers mailed each day to the division engineers their records for the day, so that an opportunity was had to correct quickly any obvious errors. The work moved very smoothly, and but few errors or misunderstandings occurred.

On certain of the main roads leading into Boston the records were taken during the August census for twenty-four hours each day, so as to include the vehicles which carry milk and produce into Boston and its suburbs. The results of the night traffic are shown in Exhibit D.

In addition to the records taken by the employees of the commission, the Metropolitan Park Commission, the park commissioners of the city of Boston and the street commissioner of the city of Newton caused similar counts of the traffic over the roads under their respective jurisdictions to be made, in the same manner and for the same periods. The results of these counts will be found in Exhibit D.

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Tabulation of Results, etc.

After a preliminary examination by the division engineers of the observers' tally cards, they were sent to the office of the commission and there checked carefully and the data analyzed. Tables of averages were then compiled, copies of which will be found in Exhibits B and C, the former relating to the August census and the latter to that of October.

The following table shows the recapitulation of the results of both records: —

Table Showing Total Average Daily Traffic at All Stations,[1] *Percentages, Averages, etc.*

	August Census.	October Census.
Horse-drawn: —		
Light,	19,622	16,456
Heavy,	17,969	17,967
Total,	37,591	34,423
Automobiles: —		
Runabouts,	5,922	3,995
Touring cars,	21,387	14,514
Total,	27,309	18,509
All kinds,	64,900	52,952
Per cent. horse-drawn,	58	65
Per cent. automobile,	42	35
Averages per station: [2]—		
Horse-drawn: —		
Light,	83	69
Heavy,	76	75
	159	144
Automobiles,	115	77
All kinds,	274	221

[1] Several stations were established on the Newburyport turnpike, which has not been taken as a State highway, and the traffic count at such stations is here included. The total results are not affected appreciably by their inclusion.

[2] In August, 237 stations; in October, 240 stations.

It is greatly to be regretted that there are no figures available showing the traffic conditions before the advent of the automobile, with which to compare the above figures. It may be said, however, that in seven years the motor vehicle traffic has increased on the State highways from substantially nil to 42 per cent. in the summer

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months and to 35 per cent. during the remainder of the year, when climatic conditions are favorable.

With the data now at hand the commission should be able to determine the character of surface which is needed for each road, and whether or not one of the bituminous products is needed as a binder to protect the road from the destructive effect of fast-moving automobiles.

Primary Routes.

The commission is now enabled to better classify the main routes of travel and to determine the relative importance of such routes. As illustrative of this point the following table shows some of the principal routes of travel in Massachusetts over which long-distance travel passes. It is not to be assumed that in all respects these routes represent the most important or most traveled sections of State highway, since an examination of the tables in Exhibits B and C will show instances where the local travel on a State highway is much in excess of the average travel on the routes marked "primary." It is fair, however, to say that the following are probably the most important of the "trunk lines," if that expression may be borrowed from the railroad nomenclature.

TABLE SHOWING AVERAGE DAILY TRAFFIC OVER THE PRIMARY ROUTES OF STATE HIGHWAYS.

Route 1. Lowell to Newburyport.

CITY OR TOWN.	Station Number.	AUGUST.			OCTOBER.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Lowell,	–	–	–	–	–	–	–
Tewksbury,	432	48	87	55	32	65	49
Andover,	404	162	510	32	270	707	38
Lawrence,	433	820	2,440	34	278	1,222	23
Methuen,	434	97	193	50	70	151	46
Haverhill,	–	–	–	–	–	–	–
Groveland,	–	–	–	–	–	–	–
West Newbury,	441	78	269	29	58	350	17
Newburyport,	–	–	–	–	–	–	–
Totals,		1,205	3,499	–	708	2,495	–
Averages,		241	700	34	142	499	29

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Route 2. Boston to Worcester.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	–	–	–	–	–	–	–
Newton,	–	–	–	–	–	–	–
Weston,	406	382	990	39	334	739	45
Wayland,	–	–	–	–	–	–	–
Sudbury,	407	191	326	59	236	372	64
Marlborough,	–	–	–	–	–	–	–
Northborough (east),	303	150	207	72	153	208	74
Northborough (west),	305	182	253	71	179	231	77
Shrewsbury,	306	223	480	46	232	486	48
Worcester,	–	–	–	–	–	–	–
Totals,		1,128	2,256	–	1,134	2,036	–
Averages,		226	451	50	227	407	56

Route 3. Boston to Portsmouth, N. H.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	–	–	–	–	–	–	–
Revere,	–	–	–	–	–	–	–
Lynn,	–	–	–	–	–	–	–
Swampscott,	–	–	–	–	–	–	–
Salem,	443	382	587	65	259	404	64
Beverly,	444	393	706	56	157	451	35
Wenham,	445	366	728	51	163	477	34
Hamilton,	446	277	439	63	100	241	42
Ipswich,	–	–	–	–	97	296	33
Rowley,	447	236	439	54	80	184	43
Newbury,	448	223	326	69	122	370	33
Newburyport,	–	–	–	–	–	–	–
Salisbury,	449	341	573	59	122	370	33
Salisbury,	450	222	268	82	47	102	46
Totals,		2,440	4,066	–	1,147	2,895	–
Averages,		305	508	60	127	322	40

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Route 4. Fall River to Providence, R. I.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Fall River,	–	–	–	–	–	–	–
Somerset (north),	524	287	872	33	209	805	26
Swansea,	523	58	131	45	18	75	24
Seekonk,	522	107	318	34	98	266	37
Totals,		452	1,321	–	325	1,146	–
Averages,		151	440	34	108	382	28

Route 5. Boston to Lowell and Nashua, N. H.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	–	–	–	–	–	–	–
Somerville,	–	–	–	–	–	–	–
Medford,	401	52	329	16	80	447	18
Arlington,	–	–	–	–	–	–	–
Winchester,	408	191	326	59	201	366	55
Woburn,	–	–	–	–	–	–	–
Burlington,	410	100	202	50	110	217	51
Chelmsford (south),	411	110	248	44	117	295	40
Billerica,	–	–	–	–	–	–	–
Chelmsford,	–	–	–	–	–	–	–
Lowell,	429	121	206	59	222	332	67
Tyngsborough,	430	100	247	41	117	187	62
Totals,		674	1,558	–	847	1,844	–
Averages,		112	260	43	141	307	46

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Route 6. Boston to Providence, R. I.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	477	124	486	25	111	340	33
Dedham,	–	–	–	–	–	–	–
Westwood,	513	171	293	59	136	252	54
Norwood,	–	–	–	–	–	–	–
Walpole,	–	–	–	–	–	–	–
Norfolk,	–	–	–	–	–	–	–
Wrentham,	514	175	394	45	118	290	41
Plainville,	–	–	–	–	–	–	–
North Attleborough,	515	178	343	52	142	285	50
Attleborough,	–	–	–	–	–	–	–
Totals,		648	1,516	–	507	1,167	–
Averages,		162	379	43	102	292	35

Route 7. Boston to Plymouth.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	–	–	–	–	–	–	–
Quincy (east),	545	465	807	58	214	619	34
Weymouth,	–	–	–	–	–	–	–
Hingham,	546	340	441	77	136	237	57
Cohasset,	547	219	402	55	105	261	40
Scituate,	548	348	544	64	105	254	41
Marshfield,	–	–	–	–	–	–	–
Duxbury,	549	84	199	42	49	185	27
Kingston,	–	–	–	–	–	–	–
Plymouth,	550	170	372	45	55	189	29
Totals,		1,626	2,765	–	664	1,745	–
Averages,		271	461	59	111	291	38

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Route 8. Fitchburg to Greenfield.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Fitchburg,	–	–	–	–	–	–	–
Westminster,	204a	144	264	54	89	138	65
	204b	169	323	52	85	127	67
Gardner,	–	–	–	–	–	–	–
Baldwinsville,	206a	58	246	24	45	246	18
	206b	64	220	29	55	237	23
Phillipston,	–	–	–	–	–	–	–
Athol,	207	113	282	40	84	293	29
Orange,	208	69	179	38	43	176	24
Erving,	209a	–	–	–	34	50	68
	209b	–	–	–	44	84	52
Montague,	–	–	–	–	–	–	–
Greenfield,	–	–	–	–	–	–	–
Deerfield,	210a	92	233	39	77	207	37
	210b	25	86	29	17	114	15
Totals,		734	1,833	–	573	1,672	–
Averages,		147	367	40	95	279	34

Route 9. Greenfield to North Adams.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Greenfield,	–	–	–	–	–	–	–
Shelburne,	–	–	–	–	–	–	–
Buckland,	–	–	–	–	–	–	–
Charlemont,	214	19	246	7	16	277	6
Florida,	–	–	–	–	–	–	–
North Adams,	–	–	–	–	–	–	–
Totals,		19	246	–	16	277	–
Averages,		–	–	7	–	–	6

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Route 10. Greenfield to Holyoke.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Greenfield (east),	210a	92	233	39	77	207	37
Deerfield,	–	–	–	–	–	–	–
Sunderland,	216b	34	235	14	31	292	11
Amherst,	–	–	–	–	–	–	–
Granby,	–	–	–	–	–	–	–
South Hadley,	219a	46	354	13	43	312	14
Holyoke,	–	–	–	–	–	–	–
Totals,		172	822	–	151	811	–
Averages,		57	274	21	50	270	19

Route 11. Worcester to Fitchburg.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Worcester,	–	–	–	–	–	–	–
West Boylston,	307	161	247	65	164	346	48
Sterling,	308	90	239	37	114	285	40
Leominster,	342	69	117	58	60	124	48
Fitchburg,	–	–	–	–	–	–	–
Totals,		220	603	–	338	755	–
Averages,		73	201	36	113	252	45

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Route 12. Boston to Fitchburg.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	–	–	–	–	–	–	–
Cambridge,	–	–	–	–	–	–	–
Arlington,	–	–	–	–	–	–	–
Lexington,	415	153	368	41	162	353	46
Concord (south),	416	222	406	55	215	355	60
Concord (north),	417	150	242	62	158	281	56
Acton (east),	418	115	222	52	109	204	54
Littleton (north),	420	54	96	56	47	80	59
Littleton,	419	89	156	57	86	149	57
Groton,	421	54	156	35	54	164	33
Shirley,	–	–	–	–	–	–	–
Lunenburg,	201	92	304	30	75	329	22
Fitchburg,	–	–	–	–	–	–	–
Totals,		929	1,950	–	906	1,915	–
Averages,		116	244	48	113	239	47

Route 13. Greenfield to Springfield.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Greenfield (east),	210	92	233	39	77	207	37
Deerfield,	215	93	217	42	71	174	41
	216a	33	241	13	41	338	12
Whately,	217	27	97	28	49	102	48
Hatfield,	124	26	78	34	38	101	37
Northampton,	120	168	222	75	134	181	74
Holyoke,	–	–	–	–	–	–	–
Chicopee,	324	98	434	23	79	426	19
Chicopee,	323	105	408	26	99	377	26
Springfield,	–	–	–	–	–	–	–
Totals,		642	1,930	–	588	1,906	–
Averages,		80	241	33	74	238	31

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Route 14. Worcester to Springfield.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Worcester (west),	–	–	–	–	–	–	–
Leicester,	316	177	391	45	147	342	43
Spencer,	315	163	221	74	123	192	64
Brookfield,	317*a*	142	206	69	109	164	67
West Brookfield,	–	–	–	–	–	–	–
Warren,	319	134	284	47	123	246	50
Palmer,	320*a*	125	144	87	118	184	64
Wilbraham,	322	201	253	80	150	206	73
Springfield,	–	–	–	–	–	–	–
Totals,		942	1,499	–	770	1,334	–
Averages,		157	250	63	128	222	58

Route 15. Pittsfield to Vermont Line.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Pittsfield,	106	193	488	39	125	364	35
Lanesborough,	–	–	–	–	–	–	–
Cheshire,	105	81	190	42	54	148	37
Adams,	104	7	112	6	9	128	7
North Adams,	102	98	304	32	68	258	26
Clarksburg,	103	25	222	11	16	213	7
Totals,		404	1,316	–	272	1,111	–
Averages,		81	263	31	54	222	24

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Route 16. Springfield to Pittsfield and New York Line.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Springfield,	–	–	–	–	–	–	–
West Springfield,	118	157	263	60	167	249	67
Westfield,	117	109	188	58	114	197	58
Russell,	116	77	115	66	91	122	75
Huntington,	115	59	183	32	101	215	47
Chester,	–	–	–	–	–	–	–
Becket,	–	–	–	–	–	–	–
Lee (Jacob's Ladder),	111	29	180	16	51	183	28
Lee (north),	108	77	234	32	75	203	37
Lenox,	–	–	–	–	–	–	–
Pittsfield,	–	–	–	–	–	–	–
Pittsfield (west),	107	130	238	54	102	225	45
Hancock,	–	–	–	–	–	–	–
Totals,		638	1,401	–	701	1,394	–
Averages,		91	200	46	100	199	50

Route 17. Boston to Bourne (Cape Cod).

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Boston,	–	–	–	–	–	–	–
Milton,	–	–	–	–	–	–	–
Quincy,	–	–	–	–	–	–	–
Randolph,	537	78	147	52	88	130	67
Avon,	–	–	–	–	–	–	–
Brockton,	–	–	–	–	–	–	–
West Bridgewater,	536	165	411	40	124	367	34
Bridgewater,	535	140	337	42	86	241	36
Middleborough (s.),	531	159	291	55	75	206	36
Rochester,	–	–	–	–	–	–	–
Wareham, (north)	557	132	164	80	45	73	62
Wareham (east),	530	370	572	65	133	290	46
Bourne,	512*a*	303	449	68	34	77	44
Totals,		1,347	2,371	–	585	1,384	–
Averages,		192	339	57	84	198	42

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Route 18. Springfield to Connecticut Line via Agawam.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Springfield,	–	–	–	–	–	–	–
Agawam,	119	74	158	47	10	194	5
Totals,		74	158	–	10	194	–
Averages,		–	–	47	–	–	5

Route 19. Groton to New Hampshire Line via Townsend.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Groton,	421	54	156	35	54	164	33
Pepperell,	–	–	–	–	–	–	–
Townsend,	202	59	344	18	56	184	31
Ashby,	–	–	–	–	–	–	–
Totals,		113	500	–	110	348	–
Averages,		57	250	23	55	174	32

Route 20. Worcester to Providence, R. I., via Blackstone.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Worcester,	–	–	–	–	–	–	–
Millbury,	337	33	288	12	12	110	11
Sutton,	338	9	246	4	6	256	3
Douglas,	339	12	85	14	9	85	11
Uxbridge,	340	65	119	55	–	–	–
Blackstone,	–	–	–	–	–	–	–
Totals,		119	738	–	27	451	–
Averages,		30	185	16	9	150	6

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Route 21. Bourne to Provincetown.

CITY OR TOWN.	Station Number.	August.			October.		
		Automobiles.	All Kinds.	Per Cent. Automobiles.	Automobiles.	All Kinds.	Per Cent. Automobiles.
Bourne,	512a	303	449	68	34	77	44
Sandwich,	508	117	175	67	33	86	38
Barnstable (west),	–	–	–	–	–	–	–
Yarmouth,	505	168	433	38	43	287	15
Dennis,	–	–	–	–	–	–	–
Brewster,	–	–	–	–	–	–	–
Orleans,	503	69	160	43	12	76	16
Eastham,	–	–	–	–	–	–	–
Wellfleet,	502	31	77	40	7	49	14
Truro,	–	–	–	–	–	–	–
Provincetown,	501	36	197	18	8	47	17
Totals,		724	1,491	–	137	622	–
Averages,		121	249	49	23	104	22

In considering the average figures shown in the foregoing tables of primary routes, it must be borne in mind, in all cases, that wherever there is a city or other thickly populated community along the route, the travel in its vicinity is greatly augmented; for example, on Route 1, extending from Lowell to Newburyport, the traffic over the road at Lawrence averaged in October 1,222 vehicles per day, while in the adjoining town of Methuen the record showed but 151 vehicles a day. There is no doubt that most of the Lawrence traffic did not go far toward Newburyport.

When the commission began its work, in 1893, there was no apparent need of through roads, such as the routes from Boston to Worcester or from Boston to Newburyport, since but few persons needed to go for such long distances in horse-drawn vehicles. With the exception of furniture-moving vans and bicycles, such routes were not used to any considerable extent for long-distance travel, and such traffic as existed was so small as to warrant no large outlay for improving the roads for that kind of use. It is true that milk and other farm produce were hauled for considerable distances, but rarely was such merchandise drawn farther than from 15 to 20 miles.

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The problem which the commission had to deal with, therefore, at the beginning of its work, was that of improving the main roads from one town to another, having in mind only relatively short-haulage distances. The early State roads were built almost solely for business purposes.

It thus happened that a number of roads were built in the early years of the commission's work which do not now fall into the primary routes, although most of them would be included in what might be called secondary routes.

That the State highways which are not on the primary routes were and are of great importance to the communities in which they were built there is no doubt. Many of them show a large traffic, and in some instances, as has already been stated, such roads, even when more or less isolated from the primary routes, show a larger use than do some portions of the trunk lines.

After the year 1900, however, the use of the highways changed with the coming of the automobile. Instead of its being a rare occurrence, within a few years hundreds of automobiles were operated daily for distances of 50 miles or more over the main lines of travel, and such use is increasing very rapidly from year to year.

Since the traffic census shows that of the total road traffic in the month of August 42 per cent. was in automobiles, and that in October 35 per cent. was of the same character, it is quite evident that the through routes or trunk lines must be now seriously considered in future extensions of the Massachusetts State highways.

Such roads as have been built on other than the primary routes, while not particularly useful for automobile tours, are still as necessary, and are, without doubt, used as much for business purposes as formerly.

It is not that the use of the State roads has lessened in any instance, but rather that the use of certain main roads has increased greatly because of the new mode of locomotion.

In Exhibit E will be found a map showing the primary routes, each line of travel being numbered to correspond with the route numbers hereinbefore given. The same procedure may be easily adopted for the secondary routes.

Respectfully submitted,

A. B. FLETCHER,
Secretary.

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EXHIBIT A.

THE COMMONWEALTH OF MASSACHUSETTS

MASSACHUSETTS HIGHWAY COMMISSION

TRAFFIC RECORD 1909

STATION NO. .....

TOWN-CITY. .....

DATE. .....

LOCATION OF STATION. .....

.....

(AT OR NEAR STA. ..... M.H.C. NOTATION)

KIND OF VEHICLE.	7 A.M. TO 9 A.M.	9 A.M TO 11 A.M.	11 A.M TO 1 P.M	1 P.M. TO 3 P.M.	3 P.M. TO 5 P.M.	5 P.M. TO 7 P.M.	7 P.M. TO 9 P.M	TOTALS
SINGLE HORSE. LIGHT VEHICLE								
SINGLE HORSE. HEAVY VEHICLE								
TWO OR MORE HORSES. LIGHT VEHICLE								
TWO OR MORE HORSES. HEAVY VEHICLE								
AUTOMOBILE. RUNABOUT								
AUTOMOBILE. TOURING CAR								
TOTALS.								
WEATHER CONDITIONS.								

..... SIGNATURE OF OBSERVER

OBSERVER WILL NOT WRITE IN THIS SPACE.

[See instructions on opposite page.]

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INSTRUCTIONS TO OBSERVERS.

1. Examine carefully the card marked "Sample," sent to you with the cards upon which you are to keep your records, and be sure that you understand the method of keeping the tally.

2. Your duties begin promptly at 7 o'clock in the morning and end at 9 o'clock in the evening for the seven days shown on the cards furnished to you.

3. In recording vehicles which pass your station, make a mark in the proper column and on the proper line for every vehicle of the kinds called for on the cards, but do not record motor cycles, bicycles or pedestrians. Make an entry for every vehicle, no matter in which direction it is going or whether it has passed you previously. Entries may be made with a lead pencil.

4. "Light vehicle" means a buggy, carryall, democrat wagon or any other vehicle, other than an automobile, which is used usually for pleasure or light business purposes.

"Heavy vehicle" means a farm wagon, milk wagon, tipcart, grocery or provision wagon or any other vehicle, except an automobile, which is used for carrying heavy loads.

5. After you have recorded all of the vehicles during the period from 7 A.M. to 9 P.M., add your tally marks, and place the totals at the right of the card and at the bottom of the card in the spaces provided.

6. When you are sure the totals are added correctly, enclose the card for the day, after you have signed it, in one of the stamped addressed envelopes furnished to you and mail it at once.

7. Be sure that you use the right card each day (look at the date at the top of the card), and do not fail to record every vehicle called for by the card which passes your station.

8. If there is anything which you do not understand about the cards or these instructions, write at once to the division engineer, to whom you are to send the cards.

AUGUST, 1909.

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EXHIBIT B.

DAILY AVERAGES FROM TRAFFIC RECORDS TAKEN FOURTEEN HOURS

Division 1.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Williamstown,	71	51	8	21	18	74	79	72	151	92	243
North Adams (south),	107	59	8	32	41	57	115	91	206	98	304
Clarksburg,	75	68	7	47	8	17	82	115	197	25	222
Adams (east),	55	19	10	21	3	4	65	40	105	7	112
Cheshire,	46	41	5	17	13	68	51	58	109	81	190
Pittsfield (east),	95	40	10	150	40	153	105	190	295	193	488
Pittsfield (west),	63	9	19	17	13	117	82	26	108	130	238
Richmond,	27	6	7	7	4	27	34	13	47	31	78
Lee (north),	81	42	14	20	6	71	95	62	157	77	234
Stockbridge (north),	26	3	21	2	7	148	47	5	52	155	207
Lee (south),	79	37	7	24	6	32	86	61	147	38	185
Lee (east),	105	13	7	26	5	24	112	39	151	29	180
Great Barrington,	95	45	26	40	14	41	121	85	206	55	261
Hinsdale,	36	36	3	7	4	33	39	43	82	37	119
Windsor,	36	5	12	22	3	21	48	27	75	24	99
Huntington,	64	19	9	32	22	37	73	51	124	59	183
Russell,	17	10	2	9	18	59	19	19	38	77	115
Westfield (west),	50	11	5	13	24	85	55	24	79	109	188
West Springfield,	35	38	2	31	30	127	37	69	106	157	263
Agawam,	30	31	2	21	25	49	32	52	84	74	158
Northampton,	31	12	1	10	39	129	32	22	54	168	222
Easthampton (north),	97	43	2	30	5	33	99	73	172	38	210
Easthampton,	42	28	1	4	2	15	43	32	75	17	92
Goshen,	69	5	12	13	7	33	81	18	99	40	139
Hatfield,	32	17	1	2	5	21	33	19	52	26	78
Totals,	1,464	688	201	618	362	1,475	1,665	1,306	2,971	1,837	4,808

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EXHIBIT B.

EACH DAY FOR ONE WEEK, BEGINNING AUG. 22, 1909, AT 7 A.M.

Division 1.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	Station Number and Remarks.
Light.	Heavy.	All.		Light.	Heavy.	All.			
33	30	63	37	95	95	95	80	89	**101.** North Adams Rd.
38	30	68	32	139	120	130	85	111	**102.** Adams Rd.
37	52	89	11	99	150	124	22	81	**103.** North Adams Rd.
58	36	94	6	78	53	66	6	41	**104.** Pumpkin Hook Rd.
27	31	58	42	61	76	69	70	69	**105.** Pittsfield—North Adams Rd.
22	39	61	39	126	250	186	168	178	**106.** Dalton Rd.
35	11	46	54	99	34	68	113	87	**107.** Pittsfield—Lebanon, N. Y., Rd.
44	17	61	39	41	17	30	27	28	**107A.** Pittsfield—Richmond Rd.
41	27	68	32	114	82	99	67	85	**108.** Pittsfield—Springfield Rd.
23	3	26	74	57	7	33	135	76	**109.** Stockbridge—Lenox Rd.
47	33	80	20	103	80	93	33	68	**110.** Stockbridge Rd.
62	22	84	16	135	51	95	25	66	**111.** Jacob's Ladder Rd.
46	33	79	21	146	112	129	48	95	**112.** Monterey Rd.
33	36	69	31	47	57	52	32	43	**113.** Hinsdale—Dalton Rd.
49	27	76	24	58	36	47	21	36	**114.** Dalton Rd. or Pittsfield—Northampton Rd.
40	28	68	32	88	67	78	51	67	**115.** Russell—Chester or Pittsfield—Springfield Rd.
17	17	34	66	23	25	24	67	42	**116.** Russell—Huntington or Pittsfield—Springfield Rd.
29	13	42	58	66	32	50	95	69	**117.** Russell Rd.
14	26	40	60	45	91	67	137	96	**118.** Westfield—Springfield or Pittsfield—Springfield Rd.
20	33	53	47	39	68	53	64	58	**119.** Springfield—Hartford Rd.
15	10	25	75	39	29	34	146	81	**120.** Holyoke—Northampton Rd.
47	35	82	18	119	96	108	33	77	**121.** Northampton Rd.
47	35	82	18	52	42	47	15	33	**122.** Holyoke St.
58	13	71	29	98	24	62	35	51	**123.** Main St. or Northampton—Pittsfield Rd.
42	24	66	34	40	25	33	23	28	**124.** Greenfield—Northampton.
35	27	62	38						

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DAILY AVERAGES FROM TRAFFIC

Division 2.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Lunenburg,	118	56	9	71	19	56	127	127	254	75	329
Townsend,	84	33	1	10	21	35	85	43	128	56	184
Ashby,	70	29	1	22	12	26	71	51	122	38	160
Westminster,	26	10	3	10	15	74	29	20	49	89	138
Gardner (south),	28	7	1	6	16	69	29	13	42	85	127
Winchendon,	125	47	2	30	6	19	127	77	204	25	229
Baldwinville,	127	47	–	27	21	24	127	74	201	45	246
Baldwinville,	118	40	1	23	16	39	119	63	182	55	237
Athol,	102	58	7	42	27	57	109	100	209	84	293
Orange,	71	47	2	13	12	31	73	60	133	43	176
Erving (west),	14	1	–	1	2	32	14	2	16	34	50
Montague (east),	27	5	2	6	4	40	29	11	40	44	84
Greenfield (east),	71	39	1	19	16	61	72	58	130	77	207
Montague city,	24	21	–	52	6	11	24	73	97	17	114
Greenfield,	70	22	5	14	12	77	75	36	111	89	200
Colrain,	57	8	3	19	3	14	60	27	87	17	104
Buckland,	100	26	4	46	2	15	104	72	176	17	193
Charlemont,	143	43	13	62	5	11	156	105	261	16	277
Deerfield,	60	30	1	12	10	61	61	42	103	71	174
Deerfield,	146	40	4	107	8	33	150	147	297	41	338
Sunderland,	126	36	3	96	6	25	129	132	261	31	292
Whately,	30	9	6	8	10	39	36	17	53	49	102
Hadley,	68	57	8	34	8	73	76	91	167	81	248
South Hadley,	60	121	6	82	12	31	66	203	269	43	312
Granby,	102	118	4	22	13	31	106	140	246	44	290
Belchertown,	224	48	23	18	15	25	247	66	313	40	353
Ware (south),	24	12	1	5	6	12	25	17	42	18	60
Ware,	62	71	3	23	5	14	65	94	159	19	178
Barre,	101	44	10	22	4	40	111	66	177	44	221
Northfield,	266	79	7	55	20	49	273	134	407	69	476
Totals,	2,644	1,204	131	957	332	1,124	2,775	2,161	4,936	1,456	6,392

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RECORDS, ETC. — *Continued.*

Division 2.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
39	39	78	22	184	169	176	97	149	**201.** Fitchburg Rd.
46	23	69	31	123	57	89	73	83	**202.** Groton—Ashby Rd.
44	32	76	24	103	68	85	49	72	**203.** Fitchburg Rd.
21	14	35	65	42	27	34	115	62	**204A.** Fitchburg traffic.
23	10	33	67	42	17	29	110	57	**204B.** Westminster or Greenfield—Fitchburg Rd.
55	34	89	11	184	103	142	32	103	**205.** Maple St.
52	30	82	18	184	99	140	58	111	**206A.** Gardner traffic.
50	27	77	23	173	84	126	71	107	**206B.** Phillipston traffic.
37	34	71	29	158	133	145	109	132	**207.** Orange Rd. or Main St., Greenfield—Fitchburg Rd.
42	34	76	24	106	80	92	56	80	**208.** Orange, Erving or Greenfield—Fitchburg Rd.
28	4	32	68	20	3	11	44	23	**209A.** Millers Falls Rd. or Greenfield—Fitchburg Rd.
35	13	48	52	42	15	28	57	38	**209B.** Turners Falls—Millers Falls Rd.
35	28	63	37	104	77	90	100	94	**210A.** Greenfield Rd., October 11 to October 17, inclusive.
21	64	85	15	35	97	67	22	52	**210B.** Montague City Rd., October 11 to October 17, inclusive.
38	18	56	44	109	48	77	115	91	**211.** Bernardston Rd.
58	26	84	16	87	36	60	22	47	**212.** Shelburne Falls Rd.
54	37	91	9	151	96	122	22	87	**213.** Ashfield—Shelburne Falls Rd.
56	38	94	6	226	140	181	21	125	**214.** Shelburne Falls—North Adams Rd.
35	24	59	41	88	56	72	92	79	**215.** Greenfield Rd., October 11 to October 17, inclusive.
44	44	88	12	217	196	206	53	153	**216A.** Sunderland Rd.
44	45	89	11	187	176	181	40	132	**216B.** South Deerfield—Amherst Rd.
35	17	52	48	53	23	37	64	46	**217.** Greenfield—Northampton Rd.
30	37	67	33	110	121	116	105	112	**218.** Northampton—Amherst Rd.
21	65	86	14	96	271	187	56	141	**219A.** South Hadley Village Rd.
37	48	85	15	154	187	171	57	131	**219B.** Granby—Holyoke Rd.
70	19	89	11	358	88	217	52	160	**220.** Granby or Belchertown—Holyoke Rd.
42	28	70	30	36	23	29	23	27	**221.** Palmer Rd.
36	53	89	11	94	125	110	25	81	**222.** Gilbertville Rd.
50	30	80	20	161	88	123	57	100	**223.** Barre Rd.
57	28	85	15	396	179	282	90	215	**224.** Main St.
43	34	77	23						

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DAILY AVERAGES FROM TRAFFIC

Division 3.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Ashland (Southboro'),	47	14	2	14	8	21	49	28	77	29	106
Southborough (north),	11	7	–	3	5	20	11	10	21	25	46
Northborough (east),	25	23	–	7	21	132	25	30	55	153	208
Northborough (south),	16	10	–	35	2	3	16	45	61	5	66
Northborough (south),	8	7	–	33	–	1	8	40	48	1	49
Northborough (west),	19	20	1	12	20	159	20	32	52	179	231
Shrewsbury,	87	94	4	69	25	207	91	163	254	232	486
West Boylston,	71	42	23	46	33	131	94	88	182	164	346
Sterling,	101	31	3	36	20	94	104	67	171	114	285
Sterling,	49	21	1	24	9	22	50	45	95	31	126
Princeton,	81	11	5	22	2	5	86	33	119	7	126
Rutland,	85	29	3	42	8	41	88	71	159	49	208
Holden (center),	53	39	3	17	21	56	56	56	112	77	189
Worcester (Holden),	71	63	60	44	36	104	131	107	238	140	378
Grafton,	64	58	1	25	24	51	65	83	148	75	223
Grafton,	44	48	–	15	10	21	44	63	107	31	138
Spencer,	31	13	1	24	19	104	32	37	69	123	192
Leicester,	60	74	1	60	22	125	61	134	195	147	342
Brookfield,	29	18	1	7	11	98	30	25	55	109	164
Brookfield,	27	21	2	3	1	4	29	24	53	5	58
West Brookfield,	34	23	1	7	12	91	35	30	65	103	168
West Brookfield,	3	14	–	1	–	–	3	15	18	–	18
Warren,	49	56	1	17	23	100	50	73	123	123	246
Palmer,	32	15	1	18	8	110	33	33	66	118	184
Palmer,	21	11	1	10	2	11	22	21	43	13	56
Brimfield,	54	9	–	2	1	1	54	11	65	2	67
Wilbraham,	17	25	2	12	24	126	19	37	56	150	206
Chicopee,	43	139	3	93	32	67	46	232	278	99	377
Chicopee,	50	197	3	97	10	69	53	294	347	79	426
East Longmeadow,	34	56	1	55	3	15	35	111	146	18	164
Monson,	32	17	1	4	4	15	33	21	54	19	73
Am'ts carried forward,	1,348	1,205	125	854	416	2,004	1,473	2,059	3,532	2,420	5,952

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RECORDS, ETC. — *Continued.*

Division 3.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	Station Number and Remarks.
Light.	Heavy.	All.		Light.	Heavy.	All.			
46	27	73	27	71	37	53	38	48	**301.** Cordaville or Ashland—Westborough Rd.
24	22	46	54	16	13	15	32	21	**302.** Marlborough—Westborough Rd.
12	14	26	74	36	40	38	199	94	**303.** Main St. or Marlborough—Worcester Rd.
24	68	92	8	23	60	42	6	30	**304A.** State Rd., South St. or Northborough —Westborough Rd.
16	82	98	2	12	53	33	1	22	**304B.** Hospital Rd.
9	14	23	77	29	43	36	233	104	**305.** West Main St. or Marlborough—Worcester Rd.
19	33	52	48	132	217	176	302	220	**306.** Main St. or Worcester—Boston Rd.
27	25	52	48	136	117	126	213	156	**307.** Worcester St. or Worcester—Fitchburg Rd.
36	24	60	40	151	89	119	148	129	**308.** Worcester—Fitchburg Rd.
40	36	76	24	73	60	66	40	57	**309.** Clinton Rd.
68	26	94	6	124	44	83	9	57	**310.** Depot Rd., Princeton.
42	34	76	24	127	95	110	64	94	**311.** Worcester—Barre Rd.
30	30	60	40	81	75	78	100	86	**312.** Worcester—Barre or Jefferson Rd.
34	28	62	38	190	143	165	182	171	**313.** Worcester Rd.
29	37	66	34	94	111	103	97	101	**314A.** Through traffic on State highway, Worcester St., card for October 12 omitted.
33	45	78	22	64	84	74	40	62	**314B.** Traffic diverted to North Grafton.
17	19	36	64	46	49	48	160	87	**315.** Main St. or Worcester—Springfield Rd.
18	39	57	43	88	179	135	191	154	**316.** Main St. or Worcester—Springfield Rd.
18	15	33	67	43	33	38	142	74	**317A.** Worcester—Springfield Rd., —West Brookfield traffic.
50	41	91	9	42	32	37	6	26	**317B.** North Brookfield traffic.
21	17	38	62	51	40	45	134	76	**318A.** Ware Rd.
17	83	100	–	4	20	12	–	8	**318B.** Worcester—Springfield Rd. or Warren Rd.
20	30	50	50	73	97	86	160	111	**319.** Worcester—Springfield Rd.
18	18	36	64	48	44	46	153	83	**320A.** Boston Rd. or Worcester—Springfield Rd.
39	38	77	23	32	28	30	17	25	**320B.** Brimfield Rd.
81	16	97	3	78	15	45	3	30	**321.** Palmer Rd.
9	18	27	73	28	49	39	195	93	**322.** Springfield—Worcester Rd.
12	62	74	26	67	309	193	128	170	**323.** Springfield—Rockminster Rd.
12	69	81	19	77	392	241	102	193	**324.** Holyoke Rd. or Chicopee St.
21	68	89	11	51	148	101	23	74	**325.** Springfield Rd.
45	29	74	26	48	28	37	25	33	**326.** Palmer—Monson Rd.

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DAILY AVERAGES FROM TRAFFIC

Division 3 — Concluded.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Am'ts brought forward,	1,348	1,205	125	854	416	2,004	1,473	2,059	3,532	2,420	5,952
Sturbridge,	72	76	1	44	5	22	73	120	193	27	220
Southbridge,	20	14	2	8	4	14	22	22	44	18	62
Dudley,	151	81	4	49	12	30	155	130	285	42	327
Webster,	91	34	4	21	11	34	95	55	150	45	195
Charlton,	37	13	2	11	2	8	39	24	63	10	73
Charlton,	27	9	1	4	2	10	28	13	41	12	53
Oxford,	–	–	–	–	–	–	–	–	–	–	–
Auburn,	21	11	–	17	9	39	21	28	49	48	97
Millbury,	69	51	11	40	21	43	80	91	171	64	235
Auburn,	58	87	3	64	11	42	61	151	212	53	265
Millbury,	64	18	2	14	2	10	66	32	98	12	110
Sutton,	136	92	–	22	1	5	136	114	250	6	256
Douglas,	56	15	–	5	1	8	56	20	76	9	85
Uxbridge,	–	–	–	–	–	–	–	–	–	–	–
Paxton,	96	39	16	82	7	40	112	121	233	47	280
Leominster,	26	24	6	8	16	44	32	32	64	60	124
Totals,	2,272	1,769	177	1,243	520	2,353	2,449	3,012	5,461	2,873	8,334

Division 4.

Medford,	54	169	12	132	10	70	66	301	367	80	447
Stoneham (north),	43	37	–	20	32	179	43	57	100	211	311
Andover (south),	27	11	3	10	19	122	30	21	51	141	192
Andover (north),	163	187	6	81	106	164	169	268	437	270	707
Watertown,	87	188	8	80	52	134	95	268	363	186	549
Weston,	217	110	8	70	77	257	225	180	405	334	739
Sudbury (south),	72	31	3	30	24	212	75	61	136	236	372
Winchester,	75	62	5	23	50	151	80	85	165	201	366
Woburn,	33	32	2	26	15	68	35	58	93	83	176
Burlington (center),	39	26	2	40	33	77	41	66	107	110	217
Am'ts carried forward,	810	853	49	512	418	1,434	859	1,365	2,224	1,852	4,076

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RECORDS, ETC. — *Continued.*

Division 3 — Concluded.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
33	55	88	12	106	160	134	35	100	327. Southbridge Rd.
36	35	71	29	32	29	31	23	28	328. Charlton Rd.
47	40	87	13	224	173	198	55	148	329. Webster Rd.
48	28	76	24	138	73	104	58	88	330. Thompson Rd.
53	33	86	14	57	32	44	13	33	331. Charlton—Depot Rd.
53	24	77	23	41	17	28	16	24	332. Worcester—Southbridge Rd.
–	–	–	–	–	–	–	–	–	333. Worcester—Southbridge Rd.; road closed to traffic.
22	29	51	49	30	37	34	62	44	334. Worcester—Webster Rd.
34	39	73	27	116	121	119	83	106	335. Main St. or Worcester Rd.
23	57	80	20	88	201	147	69	120	336. Worcester—Webster Rd.
60	29	89	11	96	43	68	16	50	337. Sutton Rd.
53	44	97	3	197	152	173	8	116	338. Douglas Rd.
66	23	89	11	81	27	53	12	38	339. Uxbridge Rd.
–	–	–	–	–	–	–	–	–	340. Worcester—Providence Rd.; road closed to traffic.
40	30	83	17	162	161	162	61	127	341. Worcester—Barre Rd.
26	26	52	48	46	43	44	78	56	342. Fitchburg—Sterling Rd.
29	36	65	35						

Division 4.

15	67	82	18	96	401	255	104	202	401. Boston—Lawrence Rd.
14	18	32	68	62	76	69	274	141	402. Reading Rd. (Main St.).
16	11	27	73	43	28	35	183	87	403. North Reading Rd. (Main St.).
24	38	62	38	245	367	303	351	320	404. Lawrence Rd.
17	49	66	34	138	367	252	242	249	405. Waltham—Brighton Rd.
30	25	55	45	326	240	281	434	334	406. Waltham—Marlborough Rd.
20	16	36	64	109	81	94	307	168	407. Marlborough—Waltham Rd.
22	23	45	55	116	113	115	261	165	408. Arlington—Woburn Rd.
20	33	53	47	51	77	65	108	80	409. Winchester—Burlington Rd.
19	30	49	51	59	88	74	143	98	410. Billerica Rd.

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DAILY AVERAGES FROM TRAFFIC

Division 4 — Continued.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Am'ts brought forward,	810	853	49	512	418	1,434	859	1,365	2,224	1,852	4,076
Chelmsford (south),	79	67	1	31	29	88	80	98	178	117	295
Tewksbury (center),	69	34	2	10	19	67	71	44	115	86	201
Lexington,	26	35	1	23	14	66	27	58	85	80	165
Bedford,	28	8	1	7	2	11	29	15	44	13	57
Lexington,	69	70	7	45	34	128	76	115	191	162	353
Concord (south),	48	54	4	34	63	152	52	88	140	215	355
Concord (north),	69	37	3	14	45	113	72	51	123	158	281
Acton (east),	53	21	1	20	29	80	54	41	95	109	204
Littleton,	40	15	3	5	19	67	43	20	63	86	149
Littleton,	12	16	1	4	6	41	13	20	33	47	80
Groton,	64	41	1	4	11	43	65	45	110	54	164
Acton (west),	60	58	–	14	6	9	60	72	132	15	147
Boxborough,	35	19	1	20	2	18	36	39	75	20	95
Harvard,	57	32	–	25	9	24	57	57	114	33	147
Westford,	20	8	3	8	4	23	23	16	39	27	66
Chelmsford,	43	38	1	10	4	20	44	48	92	24	116
Chelmsford,	142	107	1	42	7	40	143	149	292	47	339
Chelmsford (north),	86	71	1	38	36	69	87	109	196	105	301
Lowell (north),	71	20	7	12	68	154	78	32	110	222	332
Tyngsborough,	45	17	1	7	25	92	46	24	70	117	187
Dracut,	53	25	–	11	1	5	53	36	89	6	95
Tewksbury,	23	6	1	3	6	26	24	9	33	32	65
Lawrence,	370	446	23	105	101	177	393	551	944	278	1,222
Methuen,	29	32	1	19	15	55	30	51	81	70	151
North Andover,	15	14	1	5	12	17	16	19	35	29	64
North Andover,	57	32	2	16	14	29	59	48	107	43	150
Middleton,	53	27	–	6	7	29	53	33	86	36	122
Haverhill (east),	50	17	1	16	4	9	51	33	84	13	97
Amesbury,	29	17	2	9	7	26	31	26	57	33	90
Amesbury,	37	41	–	19	16	33	37	60	97	49	146
Am'ts carried forward,	2,642	2,278	120	1,094	1,033	3,145	2,762	3,372	6,134	4,178	10,312

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RECORDS, ETC. — *Continued.*

Division 4 — Continued.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
27	33	60	40	116	131	124	152	133	411. Lowell—Billerica Rd.
35	22	57	43	103	59	80	112	91	412. Lowell—Wilmington Rd.
16	35	51	49	39	77	59	104	75	413. At Bedford line, Bedford Rd.
51	26	77	23	42	20	31	17	26	414. Carlisle Rd.
21	33	54	46	110	153	133	210	160	415. Waltham Rd.
15	25	40	60	75	117	97	279	161	416. Lexington Rd.
26	18	44	56	104	68	86	205	127	417. Acton Rd.
26	20	46	54	78	55	66	142	92	418. Lowell Rd.
29	14	43	57	62	27	44	112	67	419. South of Littleton Common.
16	25	41	59	19	27	23	61	36	420. North Littleton Railroad Station—town road.
40	27	67	33	94	60	76	70	74	421. Townsend Rd.
41	49	90	10	87	96	92	19	67	422. Concord—Harvard Rd.
38	41	79	21	52	52	52	26	43	423. Acton—Harvard Rd.
39	39	78	22	83	76	79	43	67	424. Boxborough Rd.
35	24	59	41	33	21	27	35	30	425. Chelmsford—Littleton Rd.
38	41	79	21	64	64	64	31	53	426. West of center, Littleton Rd.
42	44	86	14	207	199	203	61	153	427. East of center, Lowell Rd.
29	36	65	35	126	145	136	136	136	428. Lowell—Nashua Rd.
23	10	33	67	113	43	76	289	150	429. Pawtucket Boulevard.
25	13	38	62	67	32	49	152	85	430. Lowell—Nashua Rd.
56	38	94	6	77	48	62	8	43	431. Lowell—Methuen Rd.
37	14	51	49	35	12	23	42	29	432. Lowell—Andover Rd.
32	45	77	23	570	736	655	361	553	433. Totals on cards, October 10-14, inclusive, reduced 20 per cent.
20	34	54	46	43	68	56	91	68	434. Lawrence—Haverhill Rd.
25	30	55	45	23	25	24	38	29	435. Osgood St. at Town Hall.
39	32	71	29	86	64	74	56	68	436. Lawrence Rd, east of Green St., on highway.
43	27	70	30	77	44	60	47	55	437. Lawrence—Andover Rd.
53	34	87	13	74	44	58	17	44	438. Haverhill—Merrimac Rd.
34	29	63	37	45	35	40	43	41	439. Challis Hill, Merrimac Rd.
25	41	66	34	54	80	67	64	66	440. Salisbury line.

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DAILY AVERAGES FROM TRAFFIC

Division 4 — Continued.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Am'ts brought forward,	2,642	2,278	120	1,094	1,033	3,145	2,762	3,372	6,134	4,178	10,312
West Newbury,	127	64	1	100	16	42	128	164	292	58	350
Saugus,	–	–	–	–	–	–	–	–	–	–	–
Salem,	44	55	3	43	35	224	47	98	145	259	404
Beverly (north),	113	94	12	75	55	102	125	169	294	157	451
Wenham (center),	168	102	11	33	49	114	179	135	314	163	477
Hamilton,	94	27	3	17	19	81	97	44	141	100	241
Rowley,	100	79	3	17	26	71	103	96	199	97	296
Newbury,	43	40	1	20	11	69	44	60	104	80	184
Salisbury,	104	103	5	36	32	90	109	139	248	122	370
Salisbury,	28	10	1	16	9	38	29	26	55	47	102
Saugus (Newburyport turnpike).	42	26	1	9	4	25	43	35	78	29	107
Lynnfield (Newburyport turnpike).	12	14	–	5	5	26	12	19	31	31	62
Danvers (Newburyport turnpike).	18	9	1	5	3	37	19	14	33	40	73
Ipswich (Newburyport turnpike).	3	2	–	2	–	4	3	4	7	4	11
Melrose,	30	15	2	3	2	23	32	18	50	25	75
Revere (east),	67	183	2	82	57	67	69	265	334	124	458
Saugus River bridge,	69	–	6	–	112	528	75	–	75	640	715
Beverly (east),	500	169	71	124	92	519	571	293	864	611	1,475
Gloucester (south),	117	57	2	18	36	115	119	75	194	151	345
Gloucester,	49	76	8	60	5	22	57	136	193	27	220
Essex,	81	73	1	21	15	42	82	94	176	57	233
Ayer,	21	4	–	3	6	25	21	7	28	31	59
Shirley,	33	30	1	8	8	24	34	38	72	32	104
Stow,	64	9	1	15	17	60	65	24	89	77	166
Hudson,	39	25	2	17	12	35	41	42	83	47	130
Wellesley,	61	75	5	31	68	180	66	106	172	248	420
Natick (west),	35	43	3	13	18	94	38	56	94	112	206
Framingham,	29	42	–	19	11	22	29	61	90	33	123
Holliston,	30	37	1	6	15	39	31	43	74	54	128
Am'ts carried forward,	4,763	3,741	267	1,892	1,771	5,863	5,030	5,633	10,663	7,634	18,297

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RECORDS, ETC. — *Continued.*

Division 4 — Continued.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks..
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
36	47	83	17	186	219	203	75	158	441. Salisbury Rd.
–	–	–	–	–	–	–	–	–	442. Revere—Saugus Rd.; road closed to traffic.
12	24	36	64	68	131	101	336	182	443. Lynn—Salem Rd.
28	37	65	35	181	226	204	204	204	444. Wenham—Beverly Rd.
38	28	66	34	260	180	218	212	216	445. Beverly—Hamilton Rd.
40	18	58	42	140	59	98	130	109	446. Wenham—Ipswich Rd.
35	32	67	33	149	128	138	126	134	447. Newburyport—Ipswich Rd.
24	33	57	43	64	80	72	104	83	448. Rowley—Newburyport Rd.
29	38	67	33	158	185	172	159	167	449. Amesbury—Newburyport Rd., near Salisbury Sq.
26	28	54	46	42	35	38	61	46	450. Newburyport—Portsmouth Rd., near junction roads, Hampton and Portsmouth.
40	33	73	27	62	47	54	38	48	451. Malden—Lynn Rd.
19	31	50	50	17	25	22	40	28	452. Saugus—Peabody Rd.
26	19	45	55	28	19	23	52	33	453. Peabody—Ipswich Rd.
28	36	64	36	4	5	5	5	5	454. Newburyport Rd.
43	24	67	33	46	24	35	32	34	455. Melrose—Saugus Rd.
15	58	73	27	100	352	232	161	207	456. Chelsea—Winthrop Rd.
10	–	10	90	109	–	52	832	324	457. Metropolitan Park System.
38	20	58	42	829	390	600	794	668	458. Beverly—Manchester Rd.
35	22	57	43	172	100	135	196	156	459. Manchester—Gloucester Rd., Beachmont Av.
26	62	88	12	83	181	134	35	100	460. Rockport—Gloucester Rd., near Rockport line.
35	40	75	25	119	125	122	74	105	461. Gloucester—Wenham Rd.
36	12	48	52	30	9	19	40	27	462. Ayer—Littleton Rd.
33	36	69	31	49	51	50	42	47	463. Leominster—Ayer Rd.
39	14	53	47	94	32	62	100	75	464. Concord Rd.
32	32	64	36	59	56	58	61	59	465. Marlborough Rd.
16	25	41	59	96	142	119	322	190	466. Natick Rd.
18	27	45	55	55	75	65	146	93	467. Framingham Rd.
24	49	73	27	42	81	63	43	56	468. Ashland Rd.
24	34	58	42	45	57	51	70	58	469. Milford Rd.

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DAILY AVERAGES FROM TRAFFIC

Division 4 — Concluded.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Am'ts brought forward,	4,763	3,741	267	1,892	1,771	5,863	5,030	5,633	10,663	7,634	18,297
Bellingham,	34	22	–	14	3	19	34	36	70	22	92
Franklin,	44	29	4	18	6	25	48	47	95	31	126
Newton,	28	49	4	28	31	78	32	77	109	109	218
Needham,	65	28	5	23	15	66	70	51	121	81	202
Millis,	61	56	–	21	11	25	61	77	138	36	174
Bellingham,	62	50	1	24	7	15	63	74	137	22	159
Bellingham (south),	100	145	–	23	5	14	100	168	268	19	287
Boston,	37	114	4	74	26	85	41	188	229	111	340
Totals,	5,194	4,234	285	2,117	1,875	6,190	5,479	6,351	11,830	8,065	19,895

Division 5.

Provincetown,	20	15	1	3	2	6	21	18	39	8	47
Wellfleet,	14	22	1	5	1	6	15	27	42	7	49
Orleans (north),	35	26	1	2	4	8	36	28	64	12	76
Orleans (south),	48	13	–	7	1	3	48	20	68	4	72
Yarmouth (south),	139	96	–	9	13	30	139	105	244	43	287
Yarmouth (south),	98	63	–	30	14	28	98	93	191	42	233
Barnstable (south),	220	155	4	15	31	95	224	170	394	126	520
Sandwich,	36	15	1	1	6	27	37	16	53	33	86
Falmouth (north),	38	18	1	5	7	17	39	23	62	24	86
Oak Bluffs,	32	23	–	2	6	16	32	25	57	22	79
West Tisbury,	47	16	4	9	10	16	51	25	76	26	102
Bourne (north),	23	16	1	3	11	23	24	19	43	34	77
Bourne (north),	34	28	2	5	15	47	36	33	69	62	131
Westwood,	44	47	2	23	23	113	46	70	116	136	252
Wrentham,	107	43	7	15	30	88	114	58	172	118	290
North Attleborough,	55	64	1	23	21	121	56	87	143	142	285
Milton,	24	80	2	86	11	42	26	166	192	53	245
Stoughton,	77	52	3	20	12	84	80	72	152	96	248
Am'ts carried forward,	1,091	792	31	263	218	770	1,122	1,055	2,177	988	3,165

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RECORDS, ETC. — *Continued.*

Division 4 — Concluded.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
37	39	76	24	49	48	49	29	42	**470.** Franklin Rd.
38	37	75	25	70	63	66	40	57	**471.** Bellingham Rd.
15	35	50	50	46	103	76	142	99	**472.** Newton Rd.
35	25	60	40	101	68	84	105	91	**473.** Westwood Rd.
35	44	79	21	88	103	96	47	79	**474.** Medway Rd.
40	46	86	14	91	99	95	29	72	**475.** Caryville—Medway Rd.
35	59	94	6	145	224	186	25	130	**476.** Woonsocket Rd., from October 13 to October 18, inclusive.
12	55	67	33	59	251	159	144	154	**477.** Dedham Rd.
28	32	60	40						

Division 5.

45	38	83	17	30	24	27	10	21	**501.** Truro Rd.
31	55	86	14	22	36	29	9	22	**502.** Eastham Rd.
47	37	84	16	52	37	44	16	34	**503.** Eastham—Brewster Rd.
67	28	95	5	70	27	47	5	33	**504.** Chatham Rd.
48	37	85	15	202	140	169	56	130	**505.** Barnstable—Dennis (north) Rd.
42	40	82	18	142	124	132	55	105	**506.** Barnstable—Dennis (south) Rd.
43	33	76	24	325	227	273	164	235	**507.** Hyannis Center Rd.
43	19	62	38	54	21	37	43	39	**508.** Wareham—Barnstable Rd.
45	27	72	28	57	31	43	31	39	**509.** Buzzards Bay—Woods Hole Rd.
40	32	72	28	46	33	40	29	36	**510.** Edgartown Rd.
50	25	75	25	74	33	53	34	46	**511.** Tisbury—Chilmark Rd.
31	25	56	44	35	25	30	44	35	**512A.** Wareham Rd.
28	25	53	47	52	44	48	81	59	**512B.** Wareham Rd.
18	28	46	54	67	93	81	177	114	**513.** Dedham—Norwood Rd.
39	20	59	41	165	77	119	153	131	**514.** Walpole Rd.
20	30	50	50	81	116	99	185	129	**515.** Attleborough Rd.
11	68	79	21	38	221	133	69	111	**516.** Boston—Quincy Rd.
32	29	61	39	116	96	105	124	112	**517.** Brockton—Canton Rd.

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DAILY AVERAGES FROM TRAFFIC

Division 5 — Continued.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Am'ts brought forward,	1,091	792	31	263	218	770	1,122	1,055	2,177	988	3,165
Brockton (west),	42	76	1	17	25	52	43	93	136	77	213
Foxborough (south),	42	39	1	8	11	46	43	47	90	57	147
Norton (west),	36	54	7	23	12	36	43	77	120	48	168
Taunton (north),	65	88	1	7	29	106	66	95	161	135	296
Seekonk,	45	90	3	30	22	76	48	120	168	98	266
Swansea,	23	19	4	11	5	13	27	30	57	18	75
Somerset (north),	212	309	8	67	29	180	220	376	596	209	805
Dighton (south),	24	25	1	6	7	48	25	31	56	55	111
Dartmouth,	61	34	1	26	24	111	62	60	122	135	257
Mattapoisett,	87	66	12	28	28	131	99	94	193	159	352
Rochester,	70	30	–	5	9	18	70	35	105	27	132
Marion,	114	85	–	55	25	82	114	140	254	107	361
Wareham (east),	42	89	–	26	28	105	42	115	157	133	290
Middleborough (south),	66	52	1	12	16	59	67	64	131	75	206
Freetown (south),	17	24	1	8	8	36	18	32	50	44	94
Lakeville,	46	25	–	3	10	40	46	28	74	50	124
Raynham,	56	31	1	9	4	22	57	40	97	26	123
Bridgewater,	57	74	2	22	16	70	59	96	155	86	241
West Bridgewater,	113	82	2	46	26	98	115	128	243	124	367
Randolph,	18	17	1	6	13	75	19	23	42	88	130
Holbrook,	50	22	1	5	5	16	51	27	78	21	99
Abington,	44	51	1	18	24	67	45	69	114	91	205
Whitman,	49	79	1	21	16	33	50	100	150	49	199
Hanover,	166	22	1	20	28	52	167	42	209	80	289
Rockland,	154	138	2	26	40	64	156	164	320	104	424
Quincy (west),	57	82	4	49	24	65	61	131	192	89	281
Weymouth (south),	99	140	2	26	13	36	101	166	267	49	316
Quincy (east),	71	226	2	106	68	146	73	332	405	214	619
Hingham,	30	38	–	33	19	117	30	71	101	136	237
Cohasset (north),	90	35	5	26	24	81	95	61	156	105	261
Am'ts carried forward,	3,137	2,934	97	1,008	826	2,851	3,234	3,942	7,176	3,677	10,853

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RECORDS, ETC. — *Continued.*

Division 5 — Continued.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
20	44	64	36	62	124	94	100	96	**518.** Easton Rd.
29	32	61	39	62	63	63	74	67	**519.** Mansfield Rd.
26	46	72	28	62	103	83	62	76	**520.** Attleborough Rd.
22	32	54	46	96	126	112	175	134	**521.** Providence Rd.
18	45	63	37	70	160	117	127	120	**522.** Providence Rd.
36	40	76	24	39	40	40	23	34	**523.** Somerset Rd.
27	47	74	26	319	501	414	271	364	**524.** Fall River—Providence Rd.
23	28	51	49	36	41	39	71	50	**525.** Taunton—Somerset Rd.
24	23	47	53	90	80	85	175	116	**526.** Fall River—New Bedford Rd.
28	27	55	45	144	125	134	206	159	**527.** Wareham—New Bedford Rd.
53	27	80	20	101	47	73	35	60	**528.** Marion—Acushnet Rd.
31	39	70	30	165	187	176	139	163	**529.** Wareham—New Bedford Rd.
14	40	54	46	61	153	109	173	131	**530.** Wareham—Buzzards Bay Rd.
33	31	64	36	97	85	91	97	93	**531.** Wareham Rd.
19	34	53	47	26	43	35	57	43	**532.** New Bedford—Middleborough Rd.
37	23	60	40	67	37	51	65	56	**533.** New Bedford—Middleborough Rd.
46	33	79	21	83	53	67	34	56	**534.** Taunton—Bridgewater Rd.
24	40	64	36	86	128	108	112	109	**535.** Middleborough Rd.
31	35	66	34	167	171	169	161	166	**536.** Bridgewater—Brockton Rd.
15	18	33	67	28	31	29	114	59	**537.** Boston—Brockton Rd.
52	27	79	21	74	36	54	27	45	**538.** Braintree—Abington Rd.
22	34	56	44	65	92	79	118	93	**539.** Brockton Rd.
25	50	75	25	72	133	104	64	90	**540.** Brockton, Abington—Bridgewater Rd.
58	14	72	28	242	56	145	104	131	**541.** Pembroke—Rockland Rd.
37	39	76	24	226	219	222	135	192	**542.** Hanover—Abington Rd.
22	46	68	32	88	175	133	115	127	**543.** Boston—Brockton Rd.
32	53	85	15	147	221	185	64	143	**544.** Abington Rd.
12	54	66	34	106	442	281	278	280	**545.** South Shore—Nantasket Rd.
13	30	43	57	44	95	70	177	107	**546.** South Shore Rd.
37	23	60	40	137	81	108	137	118	**547.** South Shore Rd.

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DAILY AVERAGES FROM TRAFFIC

Division 5 — Concluded.

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Am'ts brought forward,	3,137	2,934	97	1,008	826	2,851	3,234	3,942	7,176	3,677	10,853
Scituate, . . .	98	31	3	17	34	71	101	48	149	105	254
Duxbury, . . .	80	34	2	20	10	39	82	54	136	49	185
Plymouth, . . .	51	52	2	29	14	41	53	81	134	55	189
Harwich, . . .	80	44	–	4	13	11	80	48	128	24	152
Nantucket, . . .	76	33	1	3	–	–	77	36	113	–	113
Acushnet (south), .	123	96	14	46	10	49	137	142	279	59	338
Falmouth (east), .	41	31	1	9	5	14	42	40	82	19	101
Barnstable (west), .	83	36	1	23	5	26	84	59	143	31	174
Freetown (west), .	51	45	10	10	20	22	61	55	116	42	158
Wareham (north), .	13	12	1	2	7	38	14	14	28	45	73
Sharon, . . .	36	11	6	5	4	40	42	16	58	44	102
Somerset (south), .	61	112	1	21	4	33	62	133	195	37	232
Kingston, . . .	107	58	1	33	7	56	108	91	199	63	262
Dartmouth, . .	145	101	2	74	20	83	147	175	322	103	425
Totals, . . .	4,182	3,630	142	1,304	979	3,374	4,324	4,934	9,258	4,353	13,611

Recapitulation.

DIVISIONS.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Division 1, . . .	1,254	730	175	779	289	1,473	1,429	1,509	2,938	1,762	4,700
Division 2, . . .	2,644	1,204	131	957	332	1,124	2,775	2,161	4,936	1,456	6,392
Division 3, . . .	2,272	1,769	177	1,243	520	2,353	2,449	3,012	5,461	2,873	8,334
Division 4, . . .	5,194	4,234	285	2,117	1,875	6,190	5,479	6,351	11,830	8,065	19,895
Division 5, . . .	4,182	3,630	142	1,304	979	3,374	4,324	4,934	9,258	4,353	13,611
Totals, . . .	15,546	11,567	910	6,400	3,995	14,514	16,456	17,967	34,423	18,509	52,932

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RECORDS, ETC. — *Concluded.*

Division 5 — Concluded.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
40	19	59	41	147	64	103	137	115	**548.** South Shore Rd.
44	29	73	27	119	72	94	64	84	**549.** South Shore Rd.
28	43	71	29	77	108	93	71	86	**550.** South Shore Rd. (Manomet).
52	32	84	16	116	64	89	31	69	**551.** Chatham—Barnstable (south) Rd.
68	32	100	-	111	48	79	-	51	**552.** Siasconset Rd.
41	42	83	17	199	189	194	77	153	**553.** New Bedford—Rochester Rd.
42	39	81	19	61	53	57	25	46	**554.** South County Rd.
48	34	82	18	122	79	99	40	79	**555.** South County Rd.
38	35	73	27	88	73	81	55	72	**556.** Fall River—Taunton Rd.
19	19	38	62	20	19	19	58	33	**557.** Middleborough—Buzzards Bay Rd.
41	16	57	43	61	21	40	57	46	**558.** Foxborough Rd.
27	57	84	16	90	177	135	48	105	**559.** Taunton—Fall River Rd.
41	35	76	24	157	121	138	82	118	**560.** Plymouth Rd.
35	41	76	24	213	233	223	134	192	**561.** Dartmouth—Westport Rd.
32	36	68	32						

Recapitulation.

PERCENTAGES.				AVERAGE NUMBER OF VEHICLES.					Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
30	32	62	38	55	58	113	68	181	26 stations.
43	34	77	23	93	72	165	48	213	30 stations.
29	36	65	35	54	67	121	64	185	45 stations.
28	32	60	40	71	83	154	104	258	77 stations.
32	36	68	32	70	80	150	70	220	62 stations.
31	34	65	35	69	75	144	77	221	240 stations.

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EXHIBIT D.

DAILY AVERAGES FROM TRAFFIC RECORDS TAKEN FOURTEEN HOURS

Night Observations

TOWN — CITY.	HORSE-DRAWN VEHICLES.				AUTOMOBILES.		TOTALS.				
	SINGLE HORSE.		TWO OR MORE HORSE.				HORSE-DRAWN.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Medford,	4	23	–	11	2	6	4	34	38	8	46
Stoneham,	3	2	–	2	7	18	3	4	7	25	32
Watertown,	19	48	1	21	15	31	20	69	89	46	135
Winchester,	5	7	–	4	6	12	5	11	16	18	34
Lexington,	6	10	–	8	3	7	6	18	24	10	34
Saugus,	4	32	1	13	3	11	5	45	50	14	64
Beverly (north),	15	10	–	4	13	35	15	14	29	48	77
Revere (east),	29	14	1	8	7	33	30	22	52	40	92
Lynn,	15	1	–	–	24	146	15	1	16	170	186
Beverly (east),	28	14	4	11	18	76	32	25	57	94	151
Gloucester (south),	18	4	–	1	5	40	18	5	23	45	68
Boston,	8	15	–	3	6	11	8	18	26	17	43
Totals,	154	180	7	86	109	426	161	266	427	535	962

Metropolitan Park

Milton,	268	205	16	117	167	514	284	322	606	681	1,287
Lynn,	244	–	34	–	213	1,212	278	–	278	1,425	1,703
Revere,	121	–	3	–	214	963	124	–	124	1,177	1,301
Everett,	110	–	3	–	291	755	113	–	113	1,046	1,159
Somerville,	230	167	13	125	245	801	243	292	535	1,046	1,581
Totals,	973	372	69	242	1,130	4,245	1,042	614	1,656	5,375	7,031

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EXHIBIT D.

EACH DAY FOR ONE WEEK, BEGINNING AUG. 22, 1909, AT 7 A.M.

from 9 P.M. to 7 A.M.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
9	74	83	17	31	155	109	18	58	**401.** Boston—Lawrence Rd.
9	13	22	78	23	18	20	55	40	**402.** Reading Rd. (Main St.).
15	51	66	34	154	314	254	102	169	**405.** Waltham—Brighton Rd.
15	32	47	53	38	50	46	40	43	**406.** Arlington—Woburn Rd.
18	53	71	29	46	82	69	22	43	**415.** Waltham Rd.
8	70	78	22	38	205	143	31	80	**442.** Revere—Saugus Rd.
20	18	38	62	115	64	83	107	96	**444.** Wenham—Beverly Rd.
33	24	57	43	231	100	149	89	115	**456.** Chelsea—Winthrop Rd.
8	1	9	91	115	5	46	378	233	**457.** Metropolitan Park System.
21	17	38	62	246	114	163	209	189	**458.** Beverly—Manchester Rd.
27	7	34	66	138	23	66	100	85	**459.** Beaumont Av., Manchester—Gloucester Rd.
18	42	60	40	62	82	74	38	54	**477.** Dedham Rd.
17	28	45	55						

Commission.

22	25	47	53	137	262	183	63	92	**1.** Mattapan bridge.
16	–	16	84	134	–	84	133	121	**2.** Lynn Shore Drive.
9	–	9	91	60	–	37	110	93	**3.** Saugus River bridge.
10	–	10	90	54	–	34	97	83	**4.** Malden River bridge.
15	19	34	66	117	238	162	97	112	**5.** Wellington bridge, Middlesex Fells.
15	9	24	76						

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Daily Averages from Traffic

Boston Park

TOWN — CITY.	Horse-drawn Vehicles.				Automobiles.		Totals.				
	Single Horse.		Two or more Horse.				Horse-drawn.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Commonwealth Av.,	212	67	84	38	254	1,837	296	105	401	2,091	2,492
Jamaica Plain,	259	12	34	28	109	655	293	40	333	764	1,097
Dorchester,	145	30	18	12	81	149	163	42	205	230	435
Totals,	616	109	136	78	444	2,641	752	187	939	3,085	4,024

Newton.

Washington St.,	88	40	6	30	68	173	94	70	164	241	405
Commonwealth Av.,	97	64	9	40	99	409	106	104	210	508	718
Washington and Walnut sts.	143	276	7	67	67	112	150	343	493	179	672
Walnut St.,	100	177	8	35	53	81	108	212	320	134	454
Totals,	428	557	30	172	287	775	458	729	1,187	1,062	2,249

Daily Averages from Traffic Records taken Fourteen Hours

Metropolitan Park

TOWN — CITY.	Horse-drawn Vehicles.				Automobiles.		Totals.				
	Single Horse.		Two or more Horse.				Horse-drawn.				
	Light.	Heavy.	Light.	Heavy.	Runabouts.	Touring Cars.	Light.	Heavy.	All.	Automobiles.	All Kinds.
Milton,	273	230	16	132	162	534	289	362	651	696	1,347
Lynn,	150	–	12	–	172	450	162	–	162	622	784
Revere,	60	–	3	–	167	439	63	–	63	606	669
Everett,	69	–	6	–	112	528	75	–	75	640	715
Somerville,	156	164	21	89	163	620	177	253	430	783	1,213
Totals,	708	394	58	221	776	2,571	766	615	1,381	3,347	4,728

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RECORDS, ETC. — *Concluded.*

Department.

PERCENTAGES.				PERCENTAGES OF AVERAGE OF ALL STATIONS.					Station Number and Remarks.
HORSE-DRAWN.			Automobiles.	HORSE-DRAWN.			Automobiles.	All Kinds.	
Light.	Heavy.	All.		Light.	Heavy.	All.			
19	3	**22**	**78**	187	110	170	213	202	**1.** Charlesgate East.
21	12	**33**	**67**	72	139	87	65	71	**2.** Prince and Pond sts.
31	12	**43**	**57**	41	51	43	22	28	**3.** Washington St. and Columbia Rd.
21	6	**27**	**73**						

Newton.

24	31	**55**	**45**	130	145	138	53	80	**1.**
8	8	**16**	**84**	69	55	61	147	120	**2.**
15	17	**32**	**68**						

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Appendix L.

Relating to Analysis of Oils, Tars, etc.

Report of Chemist.

Boston, Mass., Dec. 28, 1909.

To the Massachusetts Highway Commission.

Gentlemen: — Since August, 1908, analytical work to determine the nature and value for road work of tar and asphaltic bodies has been carried on by the commission. From time to time reports of the results of experimental laboratory work and investigations have been made by me to the secretary of the commission, and as a result of this experimental work certain specifications were elaborated early in 1909 stating certain tests which refined tars, asphaltic oils and solid asphalts must pass in order to be accepted and used in the work of the commission. Since the work was begun 688 samples of bituminous materials have been analyzed, divided as follows: —

298 preparations or mixtures containing tar.
313 samples of asphaltic oils.
50 asphalts.
27 samples of genasco, glutrin, sarco, etc.

Of the above samples, 30 were laboratory mixtures made to study certain points, information in regard to which was deemed of value.

The results of practically all these analyses are summarized in the following tables. The tables show generally the number of samples included, the average analysis and the maximum and minimum analyses.

Following are the averages of the determinations of the principal kinds of road materials during different periods. Some samples have been received, however, not properly described, being marked simply "oil," "tar," or "oil asphalt," etc., and of course could not be and are not included in the averages given.

The first two tables illustrate the variation occurring in crude tars obtained from different gas plants, and indicate the difficulties manufacturers must experience in making a uniform tar preparation.

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Crude Coal Tar.

[11 samples.]

	Specific Gravity.	Per Cent. Distillate. (Degrees C.)			Per Cent. insoluble in Carbon Bisulphide.
		Below 170°.	170°–270°.	270°–360°.	
Average,	1.22	2.1	12.2	5.2	23.6
Maximum,	1.26	3.5	16.0	8.5	35.1
Minimum,	1.19	.3	8.3	3.4	17.4

Water Gas Tar.

[9 samples.]

Average,	1.09	9.0	17.4	11.9	2.4
Maximum,	1.13	46.6	37.4	18.3	8.1
Minimum,	1.06	-	6.1	7.0	-

The two following tables show the analytical results obtained by the analysis of tarvia No. 5 from the Barrett Manufacturing Company, the first table being of analyses of samples received from Sept. 1, 1908, to April 1, 1909, and the second of analyses of samples received from April 1, 1909, to Dec. 20, 1909: —

Tarvia No. 5.

[16 samples.]

	Specific Gravity.	Per Cent. distilling below 360° C.	Per Cent. insoluble in Carbon Bisulphide.
Average,	1.21	23.5	13.6
Maximum,	1.24	42.9	17.5
Minimum,	1.19	11.0	9.6

Tarvia No. 5.

[22 samples.]

	Specific Gravity.	Per Cent. distilling below 360° C.	Viscosity, 212° F.	Per Cent. insoluble in Carbon Bisulphide.	Per Cent. evaporated, 21 Hours, 100° C.
Average,	1.22	17.7	130	14.6	8.2
Maximum,	1.27	24.0	280	30.6	12.6
Minimum,	1.20	10.9	85	12.3	3.2

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The two following tables give the average analyses of samples of tarvia No. 7 from the Barrett Manufacturing Company received at the laboratory, and also of samples of refined tar marked as made "according to the Massachusetts highway specifications." There has apparently been an improvement in the quality of tarvias received this year over those received during 1908.

Tarvia No. 7.

[9 samples.]

	Specific Gravity.	Per Cent. distilling below 360° C.	Viscosity, 212° F.	Per Cent. insoluble in Carbon Bisulphide.	Per Cent. evaporated, 21 Hours, 100° C.
Average, ...	1.23	15.1	232	18.4	5.4
Maximum, ...	1.24	21.9	360	23.9	7.1
Minimum, ...	1.21	10.0	125	13.7	3.7

Refined Tar, according to Massachusetts Highway Specifications.

[12 samples.]

Average, ...	1.21	16.4	138	13.0	6.9
Maximum, ...	1.22	23.8	170	15.3	8.3
Minimum, ...	1.18	14.7	120	11.0	5.1

The three following tables show average analyses of samples of tarite, so called, from the American Tar Company. The first table is of samples received from Sept. 1, 1908, to April 1, 1909; the second is of samples received from April 1 to July 27, 1909; and the third is of samples received from July 27 to Dec. 20, 1909. During July the minimum viscosity called for by the specifications was increased, and the samples of tarites received after this date showed decided improvement over those received previous to this change in the specifications.

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Tarite.

[13 samples.]

	Specific Gravity.	Per Cent. distilling below 360° C.	Per Cent. insoluble in Carbon Bisulphide.
Average, ...	1.25	15.8	25.6
Maximum, ...	1.28	36.9	31.9
Minimum, ...	1.23	4.4	20.3

Tarite.

[13 samples.]

	Specific Gravity.	Per Cent. distilling below 360° C.	Viscosity, 212° F.	Per Cent. insoluble in Carbon Bisulphide.	Per Cent. evaporated, 21 Hours, 100° C.
Average, ...	1.19	19.9	136	9.6	6.1
Maximum, ...	1.22	30.0	310	16.8	10.9
Minimum, ...	1.17	12.7	55	4.4	3.4

Tarite.

[24 samples.]

Average, ...	1.21	15.4	347	12.5	3.9
Maximum, ...	1.24	25.6	960	18.1	5.4
Minimum, ...	1.18	6.4	180	8.1	1.7

The following table shows the results of analyses of 17 samples of genasco, so called, from the Barber Asphalt Company. It was impossible to determine the viscosity of many of these samples of genasco because, when heated to 100° C., a portion of the sample became fluid and the rest remained pasty, this apparently being due to the natural asphalt present not being completely soluble at this temperature in the flux used. The analyses show that these samples contained a larger percentage of bodies insoluble in carbon bisulphide than any other asphalt compound examined during the year. The greater part of this insoluble residue is mineral, and is due to the natural asphalt used in this preparation.

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Genasco.

[17 samples.]

	Specific Gravity.	Viscosity, 212° F.	Per Cent. insoluble in —	
			Petroleum Ether.	Carbon Bisulphide.
Average,	1.02	-	23.5	2.6
Maximum,	1.03	-	35.2	4.3
Minimum,	1.01	1,440	12.2	0.4

The following tables show the results of the analyses of the product of the Gulf Refining Company, called fluxing oil in 1908 and asphalt oil A during 1909. The 1908 product was heavier and apparently better than much of that received during 1909 under the name of asphalt oil A. The first table shows the analyses of the fluxing oil, so called, while the second shows the analyses of the asphalt oil A, so called. Many samples of asphalt oil A frothed when heated to 100° C., while this was not observed in any of the 11 samples of fluxing oil examined during 1908.

Fluxing Oil.

[11 samples.]

	Specific Gravity.	Per Cent. insoluble in Petroleum Ether.
Average,	.979	5.4
Maximum,	.987	6.6
Minimum,	.969	3.0

Asphalt Oil A.

[110 samples.]

	Specific Gravity.	Viscosity, 212° F.	Per Cent. insoluble in Petroleum Ether.
Average,	.972	252	4.9
Maximum,	.980	485	9.4
Minimum,	.955	190	2.1

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During 1908 only 2 samples of standard macadam binder, from the Standard Oil Company, were received and analyzed. These 2 samples were much thinner than those received this year, and those received late in 1909 were generally heavier and thicker than those received earlier in the season, this being due apparently to the efforts of the company to sell a product within the Highway Commission's specifications.

Standard Macadam Binder (1908).

[2 samples.]

	Specific Gravity.	Viscosity, 212° F.	Per Cent. insoluble in Petroleum Ether.
Average,	-	-	-
Maximum,	.956	-	1.40
Minimum,	.948	-	.36

Standard Macadam Binder (1909).

[31 samples.]

Average,	.974	410	7.9
Maximum,	.983	575	11.4
Minimum,	.956	220	1.7

The samples of asphalt oil A received during 1909 and those of standard macadam binder received during the same year were, as far as could be judged from the chemical and physical tests made, of about the same value.

Of the solid asphalts received, the greater proportion were from the Gulf Refining Company, and the analyses of as many as could be identified from the certificates attached to the samples are shown in the following averages. The principal differences in these samples of asphalt are in their physical properties. Undoubtedly the brittle ones are the most satisfactory to use on account of the greater ease with which they can be handled on the road.

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Solid Asphalts.

A Asphalt.

[16 samples.]

	Specific Gravity.	Per Cent. insoluble in Petroleum Ether.
Average,	1.02	28.3
Maximum,	1.05	39.6
Minimum,	1.00	22.1

B Asphalt.

[4 samples.]

Average,	1.02	30.8
Maximum,	1.03	32.3
Minimum,	1.01	29.1

C Asphalt.

[1 sample.]

	1.02	31.8

No. 1 Asphalt.

[1 sample.[

	1.14	29.5

No. 2 Asphalt.

[2 samples.]

	1.08	27.4

No. 3 Asphalt.

[2 samples.]

	1.01	26.8

Summarizing all these analyses, it may be said that as far as we can judge at the present time, from analytical, physical and chemical data alone, the average values given in the tables repre-

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sent the best samples of the various types of tar and asphaltic compounds so far used by the commission.

There is a great difference of opinion, however, at present in regard to methods of analysis of tars and asphaltic bodies, and the meaning or value of the different tests used in this and other laboratories. As our laboratory work and study have progressed, it has become evident to us that while our methods of analysis of tar and refined tar are fairly satisfactory, the methods used for the examination of asphaltic bodies do not give as complete information in regard to these bodies as is desirable. Many methods in use in other laboratories and those proposed by the special committee of the American Society of Civil Engineers are, in our opinion, open to the same or other criticisms. It appears from our investigations of methods that many of the tests promulgated by different persons or committees are unnecessary and valueless, and it has been our constant aim to continue throughout the year special investigating work in the hope of finally obtaining methods of analysis that should be entirely satisfactory. It has become evident, for example, that little of value is learned by one or two methods practiced by us and included in the methods of the special committee of the American Society, but knowledge of this negative character is valuable, and can, of course, be gained only by the experience we have had and by comparison of the work of different laboratories.

In the work on asphaltic oils, etc., determinations of specific gravity and viscosity are undoubtedly of value, but beyond this what is most needed is not tests for paraffine, important as this may be, or tests for the solubility of the sample in cold carbon tetra chloride, etc., but a method which will give the per cent. of asphaltic bodies, as distinguished from the fluxing bodies, of the nature of lubricating oils present in such semi-solid binders as asphalt oil A, standard macadam binder, etc. Much thought has been expended on this problem and various experiments made which we believe tended to the development of a method for determining this important point. After much work we have concluded that perhaps the most promising way as yet is an indirect method, which we are now trying to perfect. This method simply determines the amount of asphaltene that is formed, by prolonged heating of the material under examination at 250° C., the formation of this asphaltene, giving, to a certain extent, a measurement of the asphalt primarily present that can be so converted by heat. In this work it was found that certain of the semi-solid binders,

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when heated in an oven at a temperature of 250° from eighteen to twenty-one hours, reached a condition in which the residue changed little, if any, in weight, and the asphaltene was increased very materially over that in the original sample.

The following table illustrates the results of the treatment in this way of samples of asphalt oil A and of standard macadam binder, etc. The asphaltene is determined in the usual way, and the increase from that primarily present shows to a certain extent, as stated, the amount of asphaltic bodies present that can be so converted.

Lawrence Number.	Sample.	Original Sample.			Results obtained by heating to 250° C., extracting with Petroleum Ether, heating Extract, extracting again, etc. (Per Cent.).		
		Specific Gravity.	Viscosity.[1]	Per Cent. Asphaltene.	Loss.	Asphaltene.	Insoluble in Carbon Bisulphide.
698	N. J. oil, . .	.982	490	9.2	21.0	72.5	6.5
700	S. O. oil, . .	.964	267	5.5	26.1	63.5	10.4
690	S. O. oil, . .	.961	239	4.5	26.8	63.5	9.7
695	Asphalt oil A, .	.972	205	3.9	42.0	56.3	1.7
696	Asphalt oil A, .	.971	334	4.8	41.4	53.5	5.1
704	Asphalt oil A, .	.972	267	5.4	35.6	63.6	.8
697	Asphalt oil A, .	.972	216	4.9	41.9	57.6	.5

[1] By Lawrence viscosimeter.

If the values in the last three columns be recalculated, leaving out the asphaltene in the sample at the start, the results are as follows: —

Lawrence Number.	Sample.	Per Cent. Loss.	Per Cent. Asphaltene.	Per. Cent. Insoluble in Carbon Bisulphide.
698	N. J. oil, ...	23.1	69.7	7.2
700	S. O. oil, ...	27.6	61.4	11.0
690	S. O. oil, ...	28.1	61.8	10.1
695	Asphalt oil A, ...	43.7	54.6	1.7
696	Asphalt oil A, ...	43.5	51.1	5.4
704	Asphalt oil A, ...	37.6	61.5	.9
697	Asphalt oil A, ...	44.1	55.4	.5

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This sample of the experimental laboratory work being carried on illustrates the intricacies of the subject from an analytical point of view, but enough knowledge of improved methods has been gained during the year to make the laboratory work of the future upon asphaltic bodies of more value than that of the past year.

Respectfully submitted,

H. W. CLARK,
Chemist.

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APPENDIX M.

APPROPRIATIONS.

Appropriations for the Construction and Repair of State Highways.

1894, chapter 497, section 8,	$300,000 00
1895, chapter 347, section 3,	400,000 00
1896, chapter 481, section 3,	600,000 00
1897, chapter 340, section 1,	800,000 00
1898, chapter 539, section 1,	400,000 00
1899, chapter 396, section 1,	500,000 00
1900, chapter 442, section 1,	500,000 00
1901, chapter 269, section 1,	500,000 00
1902, chapter 246, section 1,	500,000 00
1903, chapter 280, section 1,	[1] 2,250,000 00
1907, chapter 446, section 1,	[1] 2,500,000 00
	$9,250,000 00

Appropriations for the Salaries and Expenses of the Commission, paid from the Treasury of the Commonwealth.

1898, chapter 497, section 1,	$14,300 00
1899, chapter 367, section 1,	28,500 00
1900, chapter 141, section 1,	28,500 00
1901, chapter 451, section 1,	33,750 00
1902, chapter 67, section 1,	33,750 00
1903, chapters 14 and 485, section 1,	[2] 43,950 00
1904, chapters 19 and 461, section 1,	[2] 39,300 00
1905, chapters 36, 431 and 480, section 1,	[2] 46,150 00
1906, chapters 36 and 140, section 1,	[2] 49,514 14
1907, chapter 157, section 1,	[3] 66,950 00
1908, chapter 212, section 1,	[3] 76,300 00
1909, chapter 127,	[4] 47,300 00

[1] To cover expenses of construction for a period of five years.
[2] Includes expenses of automobile department.
[3] Includes expenses of moth suppression and automobile department in part.
[4] Includes expense of moth suppression.

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Appropriations for Maintenance, paid from the Treasury of the Commonwealth.

1903, chapter 280, section 2,	$40,000 00
1904, chapter 316, section 1,	50,000 00
1905, chapter 36, section 1,	60,000 00
1906, chapter 36, section 1,	64,166 66
1907, chapter 157, section 1,	100,000 00
1908, chapters 212 and 657, section 1,	150,000 00
1909, chapters 127 and 493, section 1,	250,000 00

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PART II.

FOURTH ANNUAL REPORT

OF THE

MASSACHUSETTS HIGHWAY COMMISSION,

FOR THE

FISCAL YEAR ENDING NOVEMBER 30, 1909,

ON

COMPANIES ENGAGED IN THE TRANSMISSION OF INTELLIGENCE BY ELECTRICITY.

CHAPTER 433, Acts of 1906.

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ANNUAL REPORT OF THE MASSACHUSETTS HIGHWAY COMMISSION CONCERNING COMPANIES ENGAGED IN THE TRANSMISSION OF INTELLIGENCE BY ELECTRICITY.

During the fiscal year 1909 the commission held many conferences between certain subscribers and the officials of the New England Telephone and Telegraph Company relating either to individual complaints or to the rates established in particular places or between certain localities. While these conferences were not in the nature of formal hearings required by law, the commission deemed it best to hold such conferences, acting merely semi-officially, and it believes that much good has been accomplished thereby.

Many times a clear explanation of the facts in the case, made by representatives of the telephone company, has sufficed.

Annual Returns.

The annual returns for the year ending June 30, 1909, which the several companies engaged in the transmission of intelligence by electricity in this State are required by law to submit to the commission, were received with more than usual promptness, and in many instances showed a marked improvement in form and make-up.

Abstracts of these annual returns are shown in Appendix B, under the same classifications as in previous years, namely, large telephone companies, nonoperating and small telephone companies, and telegraph companies.

It will be noted that in the returns submitted by the three telegraph companies of the postal telegraph system, the gross earnings and operating expenses are but fractions of the amounts shown by these companies last year; and in this connection the following correspondence between the treasurer of the companies and the secretary of the commission is given: —

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NEW YORK, July 1, 1909.

Mr. A. B. FLETCHER, *Secretary, Massachusetts Highway Commission, 15 Ashburton Place, Boston, Mass.*

DEAR SIR: — Referring to the reports made by the Commercial Union Telegraph Company, the New England Telegraph Company of Massachusetts and Postal Telegraph-Cable Company of Massachusetts to the Massachusetts Highway Commission for the year ending June 30, 1908, I beg to state that these blanks were filled out and the gross earnings from operation were given in each case under the column headed "within the State." There was another column headed "whole system," but as the three companies referred to above have no property outside of the State of Massachusetts, the figures were given as stated above. These companies transfer business to other companies outside of the State of Massachusetts, and the business handed over to these other companies was included in the figures given you in the report. In this way I presume your commission thought the receipts were derived wholly from business done between points within the State, but this is not true.

We should be pleased to have you return to us the reports which we sent to you for the year ending June 30, 1908, and let us make the correction. In any future reports we will furnish you with figures separately, namely, the receipts from the business done by each of these companies between points within the State of Massachusetts and the receipts from business destined to points outside of the State, and known as inter-state business.

Yours truly,
THEODORE L. CUYLER, Jr., *Treasurer.*

JULY 9, 1909.

THEODORE L. CUYLER, Jr., *Treasurer, Postal Telegraph-Cable Company, 253 Broadway, New York, N. Y.*

DEAR SIR: — I wish to acknowledge the receipt of your letter of the 1st inst., with regard to the annual returns made by the Commercial Union Telegraph Company, the New England Telegraph Company of Massachusetts and the Postal Telegraph-Cable Company of Massachusetts for the year ending June 30, 1908.

You are correct in assuming that the commission thought the gross earnings shown in these returns represent solely the earnings of these companies; and there was nothing in the returns to indicate otherwise. It is only the gross earnings of these companies that the commission desires to know, and not earnings taken in by the companies to be handed over to companies within or without the State, and, therefore, your earnings, such as they are, should properly be shown under the columns "within the State." To make it plainer, what the commission desires is the receipts of the companies for business originating and terminating at points within the State, that proportion of the business originating within the State and terminating outside the State which ends at the State line, and that proportion of the business originating outside the State and terminating within the State which begins at the State line; that is to say, we want the exact earnings of the companies.

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If, as you state, the returns have shown earnings which belong to other companies, it would seem that the expense accounts of these companies must have been enhanced to an equal degree, and these also should be corrected.

I am sending you herewith six blank forms of the return for 1908, and request that you have three of them filled out with the corrected figures and returned to this office.

It will not be possible to send back to you the annual returns which you have filed, as these have been already published in the report of the commission.

Yours truly,

A. B. FLETCHER, *Secretary.*

A comparative statement of statistical information, giving the total figures of all telephone companies for the years ending June 30, 1909 and 1908, has been drawn off and is presented herewith.

State of Massachusetts.

	1909.	1908.	Increase.	Decrease.
Number of subscribers,	218,642	199,951	18,691	-
Number of instruments,	225,628	206,466	19,162	-
Number of operators,	3,423	3,229	194	-
Number of pay stations,	6,653	6,358	295	-
Gross receipts,	$9,999,459	$9,467,167	$532,292	-
Operating expenses,	$7,366,439	$7,175,824	$190,615	-
Net earnings,	$2,633,020	$2,291,343	$341,677	-
Per cent. of expenses to earnings,	73.7	75.8	-	2.1
Number of subscribers on party lines,	184,393	169,033	15,360	-
Number of subscribers on single lines,	34,249	30,575	3,674	-
Underground system: —				
Conduit, feet,	3,215,744	3,190,728	25,016	-
Duct, feet,	16,248,854	16,170,932	77,922	-
Cable, feet,	7,288,549	7,211,058	77,491	-
Wire, miles,	353,121	335,269	17,852	-
Submarine system: —				
Cable, feet,	56,814	65,715	-	8,901
Wire, miles,	702	925	-	223
Overhead system: —				
Pole line, miles,	9,138	10,292	-	1,154
Iron wire, miles,	40,315	66,436	-	26,121
Copper wire, miles,	132,695	140,670	-	7,975

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The gross receipts represent solely the earnings (less rebates and discounts) from telephone traffic, and the total data here shown refer only to conditions within the State.

It is interesting to note that the ratio of expenses to earnings has decreased 2.1 per cent., that the underground installation has been greatly increased; and this latter fact, taken in connection with the diminished overhead installation, indicates an intent on the part of the companies to improve general conditions in the thickly populated districts.

Investigation of the New England Telephone and Telegraph Company concerning its Property, Rates for Service, etc.

In March of last year the commission received from the engineers employed by it, Messrs. D. C. & Wm. B. Jackson, an inventory and appraisal of the property of the New England Telephone and Telegraph Company which had been made by them under the supervision of the commission. This inventory and appraisal was made under authority of chapter 102 of the Resolves of 1908. In the report accompanying the inventory the commission's engineers stated that a further study and investigation into the amount of traffic, costs of the same, accounting, etc., was desirable. The commission thereupon forwarded the inventory, with its recommendations, to His Excellency the Governor, Hon. Eben S. Draper. The commission's letter, together with the report of its engineers, was thereupon transmitted by the Governor to the Legislature, with a special message suggesting that a sum not exceeding $35,000 be made available for a scientific investigation and report as to the cost of operation in different localities, and the amount necessary to be set aside for repairs, etc., in order that the commission might be enabled to determine what rates were fair and reasonable in the various localities of the State, and for the various classes of service, including toll and local. The money expended under authority of this statute was to be paid in the first instance from the treasury, but was to be repaid from time to time by the telephone company, as has been done in the case of the expense of making the inventory and appraisal. The telephone company

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had already agreed to pay the expenses of such an investigation if the Legislature approved of having it made.

In consequence of this special message the Legislature passed a resolve (chapter 78 of the Resolves of 1909) entitled, "A Resolve to provide for a study of the traffic and methods of accounting of the New England Telephone and Telegraph Company," and made available for that purpose a sum not exceeding $35,000.

It was manifest that the inventory and appraisal alone did not furnish sufficient information to enable the commission to make a just determination as to what the rate should be in any given locality or for any particular class of service.

The appraisal showed the property of the New England Telephone and Telegraph Company, with the details summarized. It also showed the value of the property belonging to the telephone company within the Commonwealth of Massachusetts, which value was shown to be $34,133,270.

At the request of the company, an inventory and appraisal were made of the property owned by the telephone company outside the Commonwealth of Massachusetts, but which was represented by its capital stock.

The value put upon this property was $12,407,549, making the entire value of the property of the New England Telephone and Telegraph Company $46,540,819.

The total par value of the company's outstanding stocks, bonds and notes, as given by the company's auditor for Aug. 31, 1908, was $38,939,850.

These figures, of course, are a summary of the inventory of the property, but the inventory itself was made in the minutest detail, showing each kind of property and all collateral materials in every locality in the Commonwealth.

The value of material and apparatus, poles, fittings, crossarms, pins and hardware set in place, etc., was collected in detail and tabulated. The relative value of the plant was divided as nearly as possible between the plant used in local service and the plant used in toll service. Where poles, buildings, etc., were used for both services the value was prorated.

The appraisal showed that the total value of the physical plant used for local service in the Commonwealth was $22,885,082.

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The total value of the local plant in metropolitan Boston was $4,463,843.

The total value of the local plant in the suburban district surrounding the metropolitan part of Boston was $6,446,838. The total value of the local plant in the 11 cities of the Commonwealth outside of Boston of 50,000 inhabitants or over was $6,872,411, and the remainder of the local plant required for service in the smaller cities and rural districts was valued at $5,979,248.

The total value of the toll plant used in affording intercommunication between subscribers connected with different central offices was $9,641,913. This is equivalent to 42 per cent. of the total local plant.

The report of Messrs. D. C. & Wm. B. Jackson giving these details and various others, including tables of values, will be found printed hereinafter as Appendix A.

Acting under the authority of the resolve of last year, the commission proceeded at once to have the investigation made. Its engineers have been engaged during the summer, with the hearty co-operation of the officials and accountants of the telephone company, in collecting and tabulating the various items showing the amount of traffic, cost of operation, maintenance, etc., that were necessary in order to enable the commission to determine what would be a fair and equitable rate, under all circumstances, in any given locality or for any class of service. It is manifest that such a study requires an intimate knowledge of an endless amount of detail and a careful tabulation of results before any conclusions can be drawn therefrom.

A study which was made of the earnings and expenses of the Bell Telephone Companies in the United States, not including the American Telephone and Telegraph Company, showed that for each of the 5,838,000,000 exchange connections made for the year ending Dec. 31, 1907, the amount of net earnings per connection was only $0.0056, and the amount required for interest was $0.0012 per exchange connection and for dividends $0.0033, leaving substantially $0.0011 as undivided profits. This statement is included merely to show how accurate the calculations and tabulations must be, and how carefully any rates must be considered before they are adopted, when such items

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as dividends, net earnings, etc., are represented by a fraction of 1 cent per exchange connection.

A careful study has been made of the metropolitan and suburban districts. Careful counts have been kept of the number of calls, the character of each call and the nature of the service given. Tabulations are being made which will show the operating cost of each exchange connection, and, so far as possible, the cost when a call goes through one or more exchanges in order to reach a connection with the station which is called for.

Several tentative schedules of rates have been considered and checked up to see how they would work in actual practice and whether or not they would result in reasonable rates, fair not only to the public but to the telephone company. The commission hopes that very soon the telephone company and the experts employed by the commission will agree upon some schedule of rates which can be adopted for trial, at least, in the metropolitan and suburban districts, establishing fair and equitable rates for each class of service and for the subscribers in each locality embraced in any given district.

The commission hopes that, by the aid of the study that has been made and the collection of all this data for the metropolitan and suburban districts, the rates adopted therein will be based upon some fair and equitable principle that will be applicable to other localities in the Commonwealth where like conditions exist as to the territory served and the number of telephones within a given area, or in some other equitable manner.

It has been the purpose of the commission and its engineers to go into this subject most carefully and thoroughly before any plan was adopted, even tentatively, so that it might be sure it was obtaining as fair a rate as possible. It has also been the purpose of the commission to attempt to ascertain as nearly as possible what the cost of service has been for each particular class of subscriber, and to differentiate in those costs between toll and local, between business and residential, between single lines and party lines, coin boxes, etc., to the end that any rates established shall be just and equitable to all classes of subscribers, and that the rates adopted, while rendering a fair return on the investment to the telephone company's stockholders,

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shall be reasonable and just also to all of its subscribers in each particular locality and for each particular class.

So far as the commission has been able to learn, the reduction in the toll rate from 10 cents to 5 cents between the 16 suburban exchanges and the metropolitan exchanges, which has been in force since April 15, 1908, has given satisfactory results, both to the company and to the subscribers.

The commission understands, also, that the company has carried out, as far as possible, the commission's recommendations to discontinue "all discriminating, irregular and preferential rates which gave special privileges to particular subscribers as distinguished from terms and rates open to any one in the same locality for service of the same character."

HAROLD PARKER,
WM. D. SOHIER,
F. D. KEMP,
Massachusetts Highway Commission.

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APPENDIX A.

REPORT OF MESSRS. D. C. & WM. B. JACKSON.

BOSTON, MASS., March 27, 1909.

The Honorable Massachusetts Highway Commission, 15 Ashburton Place, Boston, Mass.

GENTLEMEN: — We herewith give you a summary report of the results of the inventory and appraisal of the property of the New England Telephone and Telegraph Company that has been executed for you under our supervision.

You will find at the end of this report a table marked Exhibit 1, which shows the extent of the plant of the New England Telephone and Telegraph Company within the Commonwealth of Massachusetts, according to the actual count of the inventory made last midsummer. This table shows the plant divided into different kinds of property, and gives the extent of each. The company has 247 exchange central offices, which provide telephone service for substantially every part of the Commonwealth. Of these central offices, 46 are housed in buildings owned by the company, while the company owns 7 other buildings in the Commonwealth which are used exclusively for storage or general purposes. The number of operators' positions at exchange switchboards, which aggregate 2,367, gives a truer idea of the extent of the telephone switchboards throughout the Commonwealth than is obtained from a consideration solely of the number of central offices.

This table represents a summary of the results of the inventory of the telephone company's property, and strikingly displays the magnitude and comprehensiveness of the system in this Commonwealth and the extent of each kind of plant, but the inventory dealt with a mass of details of which the table gives only a faint idea, and which are on file for use as may be needed in further studies of the telephone situation.

It will be seen from the table that the length of telephone conductors in the Massachusetts system is sufficient to provide nine complete metallic circuits of two wires each entirely around the

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equatorial circumference of the earth, and still leave a little over, and that the other quantities found by the inventory are of correspondingly great magnitude.

In Exhibit 2, appended hereto, is given the total value of property of the New England Telephone and Telegraph Company relating to its business within the Commonwealth of Massachusetts, divided to correspond with the divisions of plant shown in Exhibit 1. In Exhibit 3 is given the value of the company's property relating to its business in the adjoining States.

The value given for each kind of property in Exhibit 2 includes the values of all the collateral materials that appropriately accompany the particular main division. For example: substation equipment includes all the cost (including installation labor) of the material and apparatus in the subscribers' stations installed ready for service; poles and fittings include all the cost of the poles suitably prepared with their cross-arms, pins and hardware, set in place ready to receive the insulators; aerial cables include the cost of the cables properly spliced, together with the messenger cables and hangers for carrying the conducting cables, the pole clamps, and the terminal boxes that are a part of the aerial cable distribution, all in place ready for service; and so on throughout the entire property.

Our appraisal shows that the total value of the physical plant used for local service in the Commonwealth of Massachusetts is $22,885,082. This is the portion of the plant that is made use of to provide local service between subscribers whose circuits emanate from the same individual exchange central office, except that the 7 central offices of metropolitan Boston are considered as the equivalent of a single exchange central office.

The foregoing total for local plant is divided in the following manner between certain important divisions of the Commonwealth: —

The total value of local plant in metropolitan Boston is $4,463,843.

The total value of local plant in the suburban district surrounding the metropolitan part of Boston is $6,446,838.

Of the latter total, a value aggregating $3,983,940 lies within the inner zone, now receiving 5-cent toll service with the metropolitan district; a value aggregating $2,462,898 lies in the outer zone, now receiving 10-cent toll service with the metropolitan district.

The total value of local plant in the 11 cities of the Common-

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wealth which, besides Boston, are of substantially 50,000 inhabitants or over, is $6,872,411. These 11 cities are: Brockton, Cambridge, Fall River, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Somerville, Springfield and Worcester.

The remainder of the local plant in the Commonwealth is required for service in the smaller cities and rural districts, and its value amounts to $5,979,248.

In these divisions of local plant, the property in Cambridge and Somerville comes into the total for the suburban district and also into the total for the 11 cities.

The total value of the toll plant for use in affording intercommunication between subscribers connected with different central offices is $9,641,913. It will be observed that this is a sum equal to 42 per cent. of the total local plant.

The average net current assets and cash on hand which enter into the capital of the telephone company amount to $1,560,000, as obtained from figures supplied to us by the auditor of the company. This amount represents the funds that are required in the current operations of the company, and is added to the values of physical plant in Exhibit 2.

There are (as of the period of the inventory, namely, midsummer, 1908) 42,749 telephones in use in metropolitan Boston; 34,888 in use in the inner zone of the suburban district; 19,456 in use in the outer zone of the suburban district; 56,729 in use in the 11 aforesaid cities, and 54,540 in use in the remainder of the State. These may be distributed in a different classification, as follows: 20,201 main telephones, 17,143 private branch exchange terminal telephones and 5,405 extension telephones connecting with 19,159 subscribers' circuits in the metropolitan district; 29,672 main telephones, 2,519 private branch exchange terminal telephones and 2,697 extension telephones connecting with 16,556 subscribers' circuits in the inner zone of the suburban district; 16,875 main telephones, 702 private branch exchange terminal telephones and 1,879 extension telephones connecting with 8,770 subscribers' circuits in the outer zone of the suburban district; 45,516 main telephones, 5,113 private branch exchange terminal telephones and 6,100 extension telephones connecting with 23,581 subscribers' circuits in the 11 cities; and 48,558 main telephones, 1,892 private branch exchange terminal telephones and 4,090 extension telephones connecting with 19,399 subscribers' circuits in the remainder of the Commonwealth.

We here use the term main telephone to represent any telephones

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except extension telephones and private branch exchange terminal telephones. The ratio between the number of main telephones and the number of subscribers' circuits shows the average number of main telephones per subscriber's circuit, or, as it is usually thought of, the average number of subscribers per circuit. The inventory shows in detail the number of each kind of circuit and each kind of telephone for each of the 241 sections of the State, comprising the metropolitan district of Boston and 240 central office exchange districts outside of the metropolitan district.

The data gathered are in great detail, and the figures here given are a summary of the whole. The inventory and appraisal which have been made with exceptional care show how much property the company possesses within Massachusetts and outside thereof, its distribution over the Commonwealth, its value and the distribution of the value throughout the Commonwealth. It shows that for each $100 worth of property the company has outstanding $83.67 of par value in stocks, bonds and notes. The aggregate value of the entire property of the company, and a comparison of this value with the total outstanding securities of the company, are shown in exhibits 4 and 5, hereto appended. From this relation of the appraised value of the property to the par value of the company's securities we infer that the company has been in the habit of paying for such expenses as engineering, interest, and like expenses pertaining to new construction, out of earnings instead of out of the capital account. The appraisal shows beyond dissent that the company now has no water in its securities, and the discrepancy in the other direction, constituting 16.3 per cent. of the total value of the property, is still small enough to cause no concern. Whether the company's existing method of putting the cost of new construction on its books should be continued is a matter which your honorable body may wish to consider. To give this a full consideration we believe that suitable accountants should be associated with your engineers.

The appraisal affords information on which your honorable body can decide how much money the company should be allowed as return on its investment, and how much it should be reasonably expected to expend on the average per year for reconstruction for the purpose of maintaining the plant against the ravages of age or the obsolescence incident to inventions and other causes for improvements and changes in the art. Whether the return on investment is ultimately to be figured on the outstanding stocks and bonds of the company or on the value of the plant, the sum

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that must be allowed for reconstruction is unquestionably determined by the actual existing values of the different kinds of property composing the plant, which values are shown by the appraisal.

This reconstruction is called for on account of several factors. The rotting of poles so that they must be replaced, the deterioration of conduits, cables and wires so that they must be replaced, and the other effects of the elements and of use on every part of the plant ultimately bring nearly all parts of the telephone plant to a point where their further use is impracticable without rebuilding, however well cared for and carefully kept up by current repairs they may be. The part of the plant affected must then be bodily replaced. The advances occurring through improvements in the art also make an important factor in the telephone business, which demands the remodeling or the bodily replacing of parts of the plant from time to time before their natural life is run. A third factor is introduced by the action of municipal and other public boards, which may order improvements of streets and roads, as by ordering good pole lines removed to alleys or wires placed underground. None of these factors can be cared for out of a uniform appropriation such as may cover ordinary repairs; and the cost of making good after special attacks of the elements, such as damage of pole lines from sleet storms, the effects of forest fires, etc., is still more capricious in its occurrence. Nevertheless, these expenditures must be made out of current receipts year by year or the capital of the company is bound to become impaired. For this purpose the average rate of reconstruction likely to be required over an extended period of years must be figured on the basis of experience, and a corresponding sum of money should be set aside each year, to be expended in reconstruction of operating plant as the conditions require it. Less than this amount may be used in some years and more in other years, but the amount to be taken from the gross receipts each year for this purpose should be fixed upon an average determined by the extent and value of each kind of plant in the complete system. As a result of our study of the complete plant, we have applied percentages to each kind of construction involved, giving consideration to first cost, rate of depreciation, probable effects of rate of changes in the art and the acts of municipal bodies, special misfortunes caused by the elements, and also giving consideration to any salvage that might be recovered from discarded plant. The consideration of these various factors is based on experience in telephony and electric lighting of the past and as much judgment of the future as

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may be brought to bear. In this way we arrive at a figure for the average yearly reconstruction account for the property used in Massachusetts business, which is equal to 7.3 per cent. of the value of such property, exclusive of land, general supplies and working capital (net current assets and cash on hand). This makes a sum to be thus annually taken for reconstruction purposes in Massachusetts which amounts to $2,240,000 on the existing plant. A detailed table will accompany our full report.

From the company's expenditures for current repairs and reconstruction for the whole of its system, including the plant in the adjoining States, as reported to us by the company's auditor for several years past, we are led to conclude that the company is not making charges to reconstruction at a higher rate than our estimate; and it therefore seems proved that the company is not building extensions out of annual receipts under color of the reconstruction account, and our exacting inspection of the plant leads us to say that the company is maintaining it in excellent condition.

The knowledge gained by the appraisal, added to the company's records of annual operating and repair costs, puts your honorable body in possession of standards by which to measure the reasonableness of the total sum annually collected by the company from its subscribers. This was a principal aim of the appraisal of the property and has been accomplished.

At your request we have been recently studying the company's rate schedules along with the appraisal data, and we believe that improved schedules can soon be reported to you for the Boston and suburban district. The appraisal seems to us to indicate that the rates in the metropolitan district of Boston may be examined and revised with advantage to the subscribers and without injury to the company's stability. Rates for service in the metropolitan district, however, are closely associated with suburban rates, and changes in one set cannot be safely made without a full consideration of the effect on the other.

As pointed out in our report to you of March 10, 1908, traffic data must be gathered and properly apportioned, and operating and repair cost records made before it is possible to get a comprehensive, or, in fact, a reasonably satisfactory opinion of the soundness with which the total sum annually collected by the company is apportioned amongst the various localities and kinds of communities in the Commonwealth. The company has gathered traffic data since our preceding report, especially with respect to the

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Boston and suburban district, which will be of service, but we believe that fuller traffic data and apportioned cost records must be gathered and studied with extended care before recommendations in regard to this very important point (the company's relative treatment of localities and classes of customers) can be put on a firmer foundation than the foundation which has apparently been heretofore utilized, namely, business expediency and the best personal judgment of the company's officers.

The large and growing business of the company shows that the judgment used by the company in the past has worked well; but study of the service, traffic and rates shows undeniable eccentricities in the company's existing development. We believe that our progress thus far shows that careful and full study of traffic rates and costs will bring the desired end of a more satisfactory means of comparing the company's treatment of different localities in the Commonwealth.

The great importance of a full and comprehensive telephone service, and the large part which the telephone plays in the business welfare and social convenience of the Commonwealth, make us believe that the expenditure for a full study of traffic, rates and costs should be made. The company ought to co-operate in such work by adding the judgment of its best experts, but we believe that your honorable body ought to receive your advice through suitable engineers and accountants who are independent of the company.

As aforesaid, in our opinion, suitable accountants may wisely be associated with your engineers, and an early part of their joint duty should be to plan, in co-operation with the company, means of record keeping that will afford data for more effectually determining, from time to time, the effect of any changes of rates or subscribers' privileges which may be made. We look upon this as of primary importance. The company's records do not seem now to be sufficiently refined for the purpose. For instance, the company's present records do not seem to be capable of affording as full an exhibit as seems to us desirable for your information of the effects on the company's investments, gross earnings and the cost of caring for the traffic, which have resulted from the change in the rate of tolls in a portion of the Boston and suburban district which the company put in effect nearly a year ago at the recommendation of your honorable body.

Additional complexity is imported into the rate question by the relations of the toll service to the local service. In order that local

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rates may be reasonably adjusted, it is desirable that they shall not be entangled with the cost of the long-distance (toll) service of the company, and the valuation of the toll plant should, therefore, be separated from the valuation of the local plant as far as practicable. This is equally necessary for a satisfactory consideration of toll rates. This principle, as indicated by the figures given earlier, has been carried out in our appraisal. The long-distance toll system probably might be expected to earn its own operating expenses, reconstruction charges and return on the investment, independently of the receipts for local service, but we are not convinced that it is now doing so. In fact, figures for gross receipts seem to indicate the contrary. In case it is not doing so, it manifestly must be carried by the subscribers in general or by some particular classes of the subscribers. This needs further study of past records of traffic, receipts and expenditures, and also study more particularly based on additional records of traffic, gross receipts and expenditures kept with a fuller separation of the records for toll service from the records of local service. Such separation has been quite incomplete in the past.

In the inventory and appraisal, wires used for toll purposes are separated from those used for local service, and the supports or conduits are apportioned to toll and local plant in proportion to the actual toll and local wires carried. The values of central office equipment and land and buildings owned by the company are also apportioned between local service and toll service on actual service requirements.

In the outlying portions of the Commonwealth the difference between what may be appropriately considered toll plant and what may be considered local plant is clearly marked, as each exchange central office provides local service to a more or less distinct community, but in the Boston and suburban district the apportionment of plant between toll and local service is much more difficult.

Owing to the closely inter-related character of the sections of metropolitan Boston, which include the central offices called Back Bay, Fort Hill, Haymarket, Main, Oxford, Richmond and Tremont, we have considered the connecting circuits between these 7 central offices as a part of local plant. We have thus considered these 7 central offices, tied together as they are by connecting trunks, as the equivalent of a single exchange central office. In the suburban district, however, we have considered as toll circuits all circuits which pass from any suburban exchange to any other exchange, following our practice in inventorying the plant in the remainder of

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the Commonwealth. We believe that this is a reasonable and fair way to make the assignments. Our inventory and appraisal also show the extent and value of all circuits connecting between central offices separately from the circuits extending from subscribers to central offices, so that the appraisal gives data for correcting the apportionment in case further study should indicate a desirability of changing this part of it.

The inventory and appraisal show the distribution of the property of the company through the Commonwealth, and they also show this distribution separated, as between local plant and toll plant, thus laying the foundation for a study of local rates and of toll rates separately in each part of the State.

The only means of obtaining this separation was an inventory and appraisal, and we believe that the apportionment is satisfactory as made.

The data obtained from the inventory and appraisal do not, however, include information about the company's expenditures for operating and repairs; and these ought to be carefully studied and means devised for maintaining records which will be of an analytical character, and will lend themselves to apportionment between the local and toll service. Plans should also be developed to maintain the plant valuation on a basis of appropriate continuous records.

To carry out the additional work to which we have referred, and which we believe ought to be carried out for the purpose of putting the Highway Commission in possession of adequate grounds for recommendation of rates as required by law, an additional appropriation will be needed. The appropriation now being used was made according to an estimate of the expense attendant upon planning and supervising the inventory and appraisal. It will be substantially exhausted by that work, though we expect to have some additional results in the way of proposing an improved rate schedule for the metropolitan district to accompany or precede our final report.

Of the money expended under the appropriation for planning and supervising the inventory and appraisal of the property of the New England Telephone and Telegraph Company, $9,600 has so far been paid to D. C. & Wm B. Jackson as professional fees. The remainder expended out of the appropriation has been used to defray the expense accompanying the making of plans, the checking of inventory figures, and reducing the data to form convenient for a report to your honorable body, and such further use as you

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may desire. The aforesaid expense has been largely made up of salaries and wages of inspectors, draftsmen, checkmen, etc.

We have not yet placed in your hands the great mass of maps and figures that comprise the inventory and appraisal of the plant, as we have recently had a force engaged, in accordance with your directions, in gathering statistics and other data relating to the matter of rates, and we have consequently delayed placing in your hands the completed report until the Boston and suburban rate question is ready for your consideration.

To execute your wishes as expressed to us will require carrying out in full the various branches of investigation set forth in the foregoing. We estimate that the additional sum which should be available for expenditure by your honorable body in order that these requirements shall be met is $35,000. This ought to cover the cost of engineering and accountants' work as outlined. We believe that provisions may be made with wisdom to extend the work over not less than one year, with the expectation of utilizing its results in the readjustment of rates from time to time as the data may warrant. We make our estimate of the expense of the work on the basis of first arranging for adequate traffic and cost data, to be followed by careful study, continuing for a satisfactory extended period, so that the traffic and cost records may be sufficient to draw reasonably reliable conclusions. It is also desirable that the effect of any changes proposed for the rates of the Boston and suburban district should be carefully studied jointly by the engineers of the company and the commission before being put into force, and thereafter as to their effect on traffic and earnings.

Respectfully submitted,

DUGALD C. JACKSON.

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EXHIBIT 1. — INVENTORY OF PROPERTY OF THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY.

Table showing the Extent of the Plant in the Commonwealth of Massachusetts.

Number of buildings owned by company,	53
Parcels of land owned by company,	54
Number of exchange central offices,	247
Number of operators' positions at exchange switchboards,	2,367
Length of pole lines (approximate) miles,	7,754
Length of underground conduits, feet,	3,100,901
Length of underground conduits, miles,	587
These comprise underground ducts, feet,	14,370,649
These comprise underground ducts, miles,	2,721
Number of manholes in underground conduits,	11,217
Aggregate length of pole lines and conduits, miles,	8,341
Length of open wire on pole lines, miles,	67,599
Length of aerial cable, feet,	5,264,160
Length of aerial cable, miles,	997
Length of conductors in aerial cables, miles,	66,836
Total length of overhead conductors, miles,	134,435
Length of underground cables, feet,	6,663,360
Length of underground cables, miles,	1,262
Length of submarine cables, feet,	52,400
Length of submarine cables, miles,	10
Length of conductors in underground and submarine cables, miles,	318,225
Aggregate length of aerial, underground and submarine cables, miles,	2,269
Aggregate length of telephone conductors in all cables and wires, miles,	452,660
Number of poles,	310,138
Number of subscribers' telephones on Aug. 31, 1908,	199,382

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EXHIBIT 2. — APPRAISAL OF PROPERTY OF THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY.

Table showing Value of Property belonging to Business within the Commonwealth of Massachusetts.

Substation equipment,	$3,217,240
Drop wires leading to subscribers' premises,	668,315
Poles and fittings,	4,260,173
Conduits and manholes,	7,588,632
Wires on poles,	2,724,017
Aerial cables,	1,465,213
Underground and submarine cables,	4,718,066
Switchboards,	4,094,067
Furniture and tools,	453,078
Land and buildings,	2,344,469
General supplies,[1]	1,040,000
Net current assets and cash on hand,[2]	1,560,000
Total,	$34,133,270

EXHIBIT 3. — APPRAISAL OF PROPERTY OF THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY.

Table showing Value of Property belonging to Business in Commonwealths outside of the Commonwealth of Massachusetts.

Apparatus and equipment,	$9,771,766
Land and buildings,	210,783
Investment in other companies,[3]	1,945,000
Net current assets and cash on hand,[2]	480,000
Total,	$12,407,549

[1] Book value, from auditor.
[2] Round figure representing average condition.
[3] At cost value, from auditor.

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EXHIBIT 4. — APPRAISAL OF PROPERTY OF THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY.

Table showing the Division of Property Value between that belonging to Business within the Commonwealth of Massachusetts and that belonging to Business in Adjoining States, together with the Total Value of Property.

Value of property belonging to business within the Commonwealth of Massachusetts,	$34,133,270
Value of property belonging to business in Commonwealths adjoining Massachusetts,	12,407,549
Value of entire property of the New England Telephone and Telegraph Company,	$46,540,819

EXHIBIT 5. — APPRAISAL OF PROPERTY OF THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY.

Table showing Value of the Property compared with the Outstanding Securities of the Telephone Company.

Appraisal value of entire property of the New England Telephone and Telegraph Company,	$46,540,819
Total par value of the company's outstanding stocks, bonds and notes, as given by the company's auditor, for Aug. 31, 1908,	$38,939,850

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Appendix B.

Abstracts of Annual Returns for the Year ending June 30, 1909, of Companies engaged in the Transmission of Intelligence by Electricity in Massachusetts.

Large Telephone Companies.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY.

Location of principal business office: 15 Dey Street, New York, N. Y.
Date of organization: March, 1885.
Date of incorporation: March, 1885.
State in which incorporated: New York.
Date of annual meeting: last Tuesday of March.
Date when company began to give service: 1885.

General Officers and Official Titles.

Theodore N. Vail,	*President.*
William R. Driver,	*Vice-President.*
Edward J. Hall,	*Vice-President.*
Bernard E. Sunny,	*Vice-President.*
Harry B. Thayer,	*Vice-President.*
Charles P. Ware,	*Vice-President.*
Charles E. Hubbard,	*Secretary.*
William R. Driver,	*Treasurer.*
Charles G. Du Bois,	*Comptroller.*

Directors and Residences.

Charles W. Amory,	Boston, Mass.
Thomas B. Bailey,	Boston, Mass.
George F. Baker,	New York, N. Y.
Francis Blake,	Auburndale, Mass.
Alexander Cochrane,	Boston, Mass.
T. Jefferson Coolidge, Jr.,	Manchester, Mass.
W. Murray Crane,	Dalton, Mass.
Rudolph Ellis,	Philadelphia, Pa.
George L. Green,	New York, N. Y.
Henry S. Howe,	Brookline, Mass.
Charles E. Hubbard,	Cambridge, Mass.
William L. Putnam,	Manchester, Mass.
Thomas Sanders,	Haverhill, Mass.
Sylvanus L. Schoonmaker,	New York, N. Y.
Nathaniel Thayer,	Lancaster, Mass.
Theodore N. Vail,	Lyndonville, Vt.
John I. Waterbury,	Morristown, N. J.
Moses Williams,	Brookline, Mass.

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Capital.

Capital authorized by charter,	$300,000,000 00
Capital authorized by vote of company,	237,788,100 00
Capital paid in, 2,377,881 shares; par value, $100,	237,788,100 00
Whole number of stockholders,	29,623

Debts.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
July 1, 1899,	July 1, 1929,	Stocks and bonds deposited as collateral,	4	$53,000,000 00
March 1, 1906,	March 1, 1936,	Not secured,	4	73,170,000 00
July 1, 1898,	July 1, 1908,	Not secured (guaranteed bonds),	4	6,000 00
Jan. 1, 1907,	Jan. 1, 1910,	Not secured,	5	25,000,000 00
May 1, 1904,	May 1, 1907,	Not secured,	5	6,000 00
Total amount of bonds and notes,				$151,182,000 00
Capital paid in,				237,788,100 00
Total liability for capital and loans,				$388,970,100 00

Condensed Statement of Operating for the Year (Whole System).

	Items.	Totals.
Gross earnings from operation,[1]		$15,025,518 88
General expense,	$1,949,845 92	
Operating expense,	2,180,733 30	
Maintenance,	3,167,476 73	
Other expenses,	198,452 66	
Total expenses,		7,496,508 61
Net revenue from operation,		$7,529,010 27
Miscellaneous income: —		
Real estate revenue,	$154,267 68	
Income from securities,	18,836,314 42	
Other miscellaneous income,	694,075 05	
Total miscellaneous income,		19,684,657 15
Total income above expenses,		$27,213,667 42
Fixed charges: —		
Interest on funded debt,	$6,534,817 35	
Interest on floating debt,	1,259,437 01	
Total fixed charges,		7,794,254 36
Net divisible income,		$19,419,413 06
Dividends declared, 8 per cent. on varying amounts,		13,970,355 75
Surplus for year ending June 30, 1909,		$5,449,057 31

[1] Gross earnings in Massachusetts, $9,055.

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Earnings (Whole System).

	Items.	Totals.
Gross earnings from operation: —		
Exchange service: —		
Subscribers' rentals,		$9,383 00
Toll service: —		
Toll service,	$7,174,475 65	
Leased line rentals,	2,151,968 30	
Miscellaneous toll earnings,	12,031 01	
Total toll service,		9,338,474 96
Conduit, pole and roof rent,		134,439 48
Licensee companies,		5,543,221 44
Revenue from operation,		$15,025,518 88
Miscellaneous income: —		
Real estate revenue,	$154,267 68	
Dividends on stocks of other companies,	13,861,639 18	
Interest on bonds and notes of other companies,	4,974,675 24	
Other miscellaneous income,	694,075 05	
Total miscellaneous income,		19,684,657 15
Total gross earnings and income,		$34,710,176 03

Expenses (Whole System).

General expense,	$1,949,845 92
Operating expense,	2,180,733 30
Maintenance expense,	3,167,476 73
Conduit, pole and roof rent,	198,452 66
Total of all expenses,	$7,496,508 61

General Balance Sheet.

Assets.

Exchange construction and equipment,		$91,678 70
Toll construction,		40,818,628 93
Construction in process,		962,889 59
Other real estate required for operation,		2,543,110 47
Office furniture and fixtures,		225,945 79
Tools and teams,		75,730 65
Total plant account,		$44,717,984 13
Telephones,		9,994,987 72
Securities of other companies,		244,235,460 02
Current assets: —		
Cash on hand,	$21,249,954 69	
Notes and accounts receivable,	115,149,957 54	
Supplies on hand,	772,998 25	
Total current assets,		137,172,910 48
Treasury stock,		19,878,200 00
Total debits,		$455,999,542 35

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Liabilities.	Items.	Totals.
Capital stock,		$237,788,100 00
Bonded debt,		126,176,000 00
Current liabilities: —		
Loans and notes payable,	$25,006,000 00	
Audited vouchers and accounts,	457,748 38	
Dividends not called for (including dividend payable July 15, $4,443,897.35),	4,448,517 35	
Matured interest coupons unpaid (including due July 1, 1909, $1,685,000),	1,731,270 00	
Total current liabilities,		31,643,535 73
Accrued liabilities: —		
Interest accrued but not due,	$975,600 00	
Taxes accrued but not due,	91,788 93	
Miscellaneous accrued liabilities,	986,557 56	
Total accrued liabilities,		2,053,946 49
Sinking and other special funds: —		
Depreciation reserve,		21,210,290 02
Total liabilities,		$418,871,872 24
Balance, surplus,		37,127,670 11
Total credits,		$455,999,542 35

PROPERTY ACCOUNTS (ADDITIONS AND DEDUCTIONS DURING THE YEAR).

Additions.	
Exchange construction and equipment,	$6,074 37
Toll construction,	521,125 87
Additions to other permanent property,	301,676 44
Total additions,	$828,876 68

Deductions.		
Construction abandoned,	$48,576 74	
Sale of real estate,	1,377,673 96	
Total deductions,		$1,426,250 70
Net credit to property account for the year,		$597,374 02

STATISTICAL INFORMATION (OVERHEAD, UNDERGROUND AND SUBMARINE SYSTEM IN MASSACHUSETTS).

Underground system: —	
Conduit, feet,	109,148
Duct, feet,	694,450
Cable, feet,	227,604
Wire, feet,	36,919,986
Submarine system: —	
Cable, feet,	4,152
Wire, feet,	113,886
Overhead system: —	
Pole line, miles,	513.20
Iron wire, miles,	205.31
Copper wire, miles,	15,887.77

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GENERAL REMARKS AND EXPLANATIONS.

"No exchange service given by this company in the State of Massachusetts; its business in said State consists of the furnishing of lines and facilities to enable the transmission of intelligence, through the exchanges of other telephone companies, between the subscribers and patrons of one of such companies and those of another. The traffic carried on over its lines is almost entirely interstate."

AUTOMATIC TELEPHONE COMPANY OF NEW BEDFORD.

Location of principal business office: 43 William Street, New Bedford, Mass.
Date of organization: Nov. 12, 1898.
Date of incorporation: Nov. 28, 1898.
State in which incorporated: Massachusetts.
Date of annual meeting: second Wednesday in April.
Date when company began to give service: Dec. 1, 1900.
Service is given by this company over its own lines in the city of New Bedford.

GENERAL OFFICERS AND OFFICIAL TITLES.

Francis T. Akin,	*President.*
Lot B. Bates,	*Vice-President.*
Frederic Taber,	*Treasurer.*
Clarence H. James,	*Assistant Treasurer.*
Frederick H. Taber,	*Clerk.*
William R. Binkley,	*Superintendent.*

DIRECTORS AND RESIDENCES.

Francis T. Akin,	New Bedford, Mass.
Lot B. Bates,	New Bedford, Mass.
Frederic Taber,	New Bedford, Mass.
Frederick H. Taber,	New Bedford, Mass.
Edward D. Sherman,	New Bedford, Mass.
Frederick W. Besse,	New Bedford, Mass.
Thomas Hersom,	New Bedford, Mass.
William C. Hawes,	New Bedford, Mass.

CAPITAL.

Capital authorized by charter,	$100,000 00
Capital authorized by vote of company,	200,000 00
Capital paid in, 4,000 shares; par value, $50,	200,000 00

Whole number of stockholders,	170
Number of stockholders resident in Massachusetts,	163
Amount of stock held in Massachusetts (shares),	3,837

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DEBTS.

Bonds or notes issued, viz.: —

DATE.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
Jan. 6, 1909,	July 6, 1909,	Company's note,	4½	$10,000 00
Jan. 12, 1909,	July 12, 1909,	Company's note,	4½	6,000 00
Jan. 13, 1909,	July 13, 1909,	Company's note,	4½	5,000 00
Feb. 6, 1909,	Aug. 6, 1909,	Company's note,	4½	9,000 00
Total amount of notes,				$30,000 00
Capital paid in,				200,000 00
Total liability for capital and loans,				$230,000 00

CONDENSED STATEMENT OF OPERATING FOR THE YEAR.

	Items.	Totals.
Gross earnings from operation,	$29,854 26	
Less rebates and discounts,	1,408 52	
Revenue from operation,		$28,445 74
General expense,	$4,609 38	
Operating expense,	5,604 01	
Current repair,	4,717 87	
Other expenses,	235 52	
Total expenses,		15,166 78
Net revenue from operation,		$13,278 96
Real estate revenue,		107 46
Total income above expense,		$13,386 42
Fixed charges : —		
Interest on floating debt,		2,311 39
Net divisible income,		$11,075 03
Dividends : —		
Dividends declared on preferred stock,	$4,901 50	
Dividends declared on common stock,	6,250 00	
		11,151 50
Deficit for year ending June 30, 1909,		$76 47

EARNINGS.

Gross earnings from operation : —	
Exchange service: —	
Subscribers' rentals,	$29,131 74
Toll service,	722 52
Total gross earnings from operation,	$29,854 26
Less rebates and discounts,	1,408 52
Revenue from operation,	$28,445 74
Miscellaneous income : —	
Real estate revenue,	107 46
Total gross earnings and income,	$28,553 20

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Expenses.

	Items.	Totals.
General expense: —		
Salaries of officers,	$1,200 00	
Salaries of others,	75 00	
Wages of clerks,	198 00	
Rent, light and heat,	48 05	
Travelling,	17 50	
Postage, printing and stationery,	293 74	
Directory,	104 40	
Taxes,	1,682 92	
Legal,	65 00	
Insurance,	405 37	
Incidental,	519 40	
Total general expense,		$4,609 38
Operating: —		
Superintendence,	$520 47	
Wages of operators,	364 00	
Wages of others,	910 00	
Rent, light, heat and power,	670 65	
Postage, printing and stationery,	37 45	
Advertising, canvassing and collecting,	2,565 76	
Incidental,	535 68	
Total operating expense,		5,604 01
Current repair: —		
Exchange overhead lines,	$2,454 93	
Exchange underground lines,	189 40	
Central office equipment,	1,055 73	
Subscribers' equipment,	1,017 81	
Total maintenance expense,		4,717 87
Conduit, pole and roof rent,		78 73
Real estate expense,		156 79
Total of all operating expenses,		$15,166 78

General Balance Sheet.

Assets.

Exchange construction: —		
Overhead lines,	$70,709 97	
Underground lines,	63,995 46	
Central office equipment,	40,756 66	
Subscribers' station equipment,	41,507 15	
Total exchange construction and equipment,		$216,969 24
Toll construction: —		
Overhead lines,		3,746 80
Real estate required for operation,		13,000 00
Total plant account,		$233,716 04
Contract and licenses,		20,000 00
Current assets: —		
Cash on hand,	$1,643 15	
Notes and accounts receivable,	7,866 97	
Total current assets,		9,510 12
Total debits,		$263,226 16

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Liabilities.	Items.	Totals.
Capital stock, common,	$100,000 00	
Capital stock, preferred,	100,000 00	
Total capital stock,		$200,000 00
Current liabilities: —		
Loans and notes payable,	$30,000 00	
Rentals due and unpaid,	5,420 00	
Total current liabilities,		35,420 00
Sinking and other special funds: —		
Depreciation account,		5,000 00
Total liabilities,		$240,420 00
Balance, surplus,		22,806 16
Total credits,		$263,226 16

Profit and Loss Account.	Dr.	Cr.
Balance from previous year,		$29,652 03
Directory,		32 40
Gross earnings from operation,		29,854 26
Real estate revenue,		107 46
Operating expenses,	$15,166 78	
Rebates and discounts,	1,408 52	
Interest on floating debt,	2,311 39	
Dividends declared on stock,	11,151 50	
Commission underwriting new stock,	1,801 80	
License charged off,	5,000 00	
Balance, surplus,	22,806 16	
	$59,646 15	$59,646 15

Property Accounts (Additions and Deductions during the Year).

Additions.	Items.	Totals.
Exchange construction: —		
Overhead lines,	$8,421 85	
Underground lines,	181 99	
Total exchange construction,		$8,603 84
Deductions.		
Charged off central office equipment,	$1,359 48	
Charged off subscribers' station equipment,	134 98	
Total deductions,		1,494 46
Net additions to property account for the year,		$7,109 38

Statistical Information.

Number of subscribers,	1,382
Number of instruments,	1,441
Number of operators,	1
Number of pay stations,	3
Number of subscribers on party lines,	211
Number of subscribers on single lines,	1,171
Underground system: —	
Conduit, feet,	18,480
Duct, feet,	135,120
Cable, feet,	58,080
Wire, feet,	9,715,200

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Overhead system: —

Pole line, miles,	31
Iron wire, miles,	334
Copper wire, miles,	74
Copper wire in aerial cables, feet,	5,370,450

GENERAL REMARKS AND EXPLANATIONS.

"Profit and loss credit, amounting to $32.40 was treated in last year's report as a liability, appearing in item 'Audited vouchers and accounts,' but on corporation books was entered correctly."

CAPE COD TELEPHONE COMPANY.

Location of principal business office: Hyannis, Mass.
Date of organization: Feb. 5, 1903.
Date of incorporation: Feb. 10, 1903.
State in which incorporated: Massachusetts.
Date of annual meeting: first week day in September.
Date when company began to give service: April 23, 1903.
Service is given by this company over its own lines in the town of Barnstable.

GENERAL OFFICERS AND OFFICIAL TITLES.

Frank Percy Goss,	*President.*
Alfred Willard Guyer,	*Vice-President.*
Arthur Gordon Guyer,	*Clerk and Treasurer.*

DIRECTORS AND RESIDENCES.

Frank Percy Goss,	Hyannis, Mass.
Alfred Willard Guyer,	Hanover, N. H.
Arthur Gordon Guyer,	Hyannis, Mass.

CAPITAL.

Capital authorized by charter,	$1,000 00
Capital authorized by vote of company,	5,000 00
Capital paid in, 240 shares; par value, $25,	6,000 00
Whole number of stockholders,	14
Number of stockholders resident in Massachusetts,	13
Amount of stock held in Massachusetts (shares),	239

DEBTS.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
Feb. 15, 1909,	Aug. 15, 1909,	Not secured,	5½	$200 00
April 21, 1909,	Oct. 21, 1909,	Not secured,	6	300 00
June 5, 1909,	Dec. 5, 1909,	Not secured,	6	400 00
June 28, 1909,	Dec. 28, 1909,	Not secured,	6	200 00
Total amount of bonds and notes,				$1,100 00
Capital paid in,				6,000 00
Total liability for capital and loans,				$7,100 00

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CONDENSED STATEMENT OF OPERATING FOR THE YEAR.

	Items.	Totals.
Gross earnings from operation,	$3,030 53	
Less rebates and discounts,	8 00	
Revenue from operation,		$3,022 53
General expense,	$1,034 77	
Operating expense,	550 89	
Current repair,	456 13	
Total expenses,		2,041 79
Net revenue from operation,		$980 74
Fixed charges: —		
Interest on floating debt,		78 50
Surplus of net income above fixed charges,		$902 24
Dividends declared, 6 per cent. on $6,000,		360 00
Surplus for year ending June 30, 1909,		$542 24

EARNINGS.

Exchange service: —	
Subscribers' rentals,	$3,030 53
Less rebates and discounts,	8 00
Total gross earnings and income,	$3,022 53

EXPENSES.

General expense: —		
Salaries of officers,	$750 00	
Rent, light and heat,	55 00	
Travelling,	50 00	
Postage, printing and stationery,	26 72	
Directory,	21 25	
Taxes,	106 22	
Incidental,	25 58	
Total general expense,		$1,034 77
Operating: —		
Wages of operators,		550 89
Current repair: —		
Exchange overhead lines,		456 13
Total of all operating expenses,		$2,041 79

GENERAL BALANCE SHEET.

Assets.

Exchange construction: —		
Overhead lines,	$5,600 00	
Central office equipment,	200 00	
Subscribers' station equipment,	1,800 00	
Total exchange construction and equipment,		$7,600 00
Current assets: —		
Cash on hand,	$34 61	
Supplies on hand,	100 00	
Total current assets,		134 61
Total debits,		$7,734 61

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Liabilities.	Totals.
Capital stock, common,	$6,000 00
Current liabilities: —	
Loans and notes payable,	1,100 00
Total liabilities,	$7,100 00
Balance, surplus,	634 61
Total credits,	$7,734 61

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$229 11
Gross earnings from operation,		3,030 53
Operating expenses,	$2,041 79	
Rebates and discounts,	8 00	
Interest on floating debt,	78 50	
For depreciation: —		
Overhead lines,	136 74	
Dividends declared on stock,	360 00	
Balance, surplus,	634 61	
	$3,259 64	$3,259 64

PROPERTY ACCOUNTS (ADDITIONS DURING THE YEAR).

Exchange construction: —	
Overhead lines,	$136 74

STATISTICAL INFORMATION.

Number of subscribers,	241
Number of instruments,	245
Number of operators,	4
Number of pay stations,	2
Number of subscribers on party lines,	240
Number of subscribers on single lines,	1
Overhead system: —	
Pole line, miles,	35
Iron wire, miles,	216

DEERFIELD VALLEY TELEPHONE AND TELEGRAPH COMPANY.

Location of principal business office: 119 Milk Street, Boston, Mass.
Date of organization: April 14, 1906.
Date of incorporation: April 14, 1906.
State in which incorporated: Massachusetts.
Date of annual meeting: first Thursday in February.
Date when company began to give service: April, 1906.
Names of towns in Massachusetts in which service is given by the company over its own lines: —

Ashfield,	Colrain,	Monroe,
Buckland,	Conway,	Shelburne.
Charlemont,		

Service is also given by this company in the State of Vermont.

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GENERAL OFFICERS AND OFFICIAL TITLES.

Jasper N. Keller,	*President.*
Fred. W. Story,	*Vice-President.*
Edmund S. Willard,	*Treasurer.*
Edmund W. Longley,	*Auditor.*
Edward A. Wilkie,	*Clerk.*
George M. Bemis,	*General Manager.*
Walter Kinsman,	*Acting General Manager.*

DIRECTORS AND RESIDENCES.

Hal T. Goodell,	Readsboro, Vt.
Frank K. Gould,	Monroe Bridge, Mass.
Francis A. Houston,	Concord, Mass.
Matt. B. Jones,	Newton, Mass.
Jasper N. Keller,	Surry, N. H.
Carl T. Keller,	Boston, Mass.
George W. Kentfield,	Wilmington, Vt.
Charles D. Noyes,	Colrain, Mass.
Fred. W. Story,	Laconia, N. H.

CAPITAL.

Capital authorized by charter,	$15,000 00
Capital authorized by vote of company,	15,000 00
Capital paid in, 600 shares; par value, $25,	15,000 00

Whole number of stockholders,	12
Number of stockholders resident in Massachusetts,	6
Amount of stock held in Massachusetts (shares),	11
Amount of stock held by the parent telephone company (shares),	584

CONDENSED STATEMENT OF OPERATING FOR THE YEAR (WHOLE SYSTEM).

	Items.	Totals.
Gross earnings from operation,[1]		$5,110 28
Less rebates and discounts,		45 65
Revenue from operation,		$5,064 63
General expense,	$316 16	
Operating expense,	2,840 36	
Current repair,	1,287 24	
Instrument rentals,	245 91	
Other expenses,	138 98	
Total expenses,		4,828 65
Net revenue from operation,		$235 98
Profit on property sold,		2,810 52
Total income above expenses,		$3,046 50
Fixed charges: —		
Interest on floating debt,		393 47
Surplus for year ending June 30, 1909,		$2,653 03

[1] Gross earnings from operation in Massachusetts, $2,877 34
Less rebates and discounts, 39 92
Revenue from operation in Massachusetts, $2,837 42

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Earnings (Whole System).

	Items.	Totals.
Gross earnings from operation: —		
Exchange service: —		
Subscribers' rentals,	$3,748 16	
Pay station local tolls,	101 15	
Terminal charges on long-distance business,	206 52	
Total exchange service,		$4,055 83
Toll service,		1,054 45
Total gross earnings from operation,		$5,110 28
Less rebates and discounts,		45 65
Revenue from operation,		$5,064 63
Miscellaneous income: —		
Profit on property sold,		2,810 52
Total gross earnings and income,		$7,875 15

Expenses (Whole System).

General expense: —		
Directory,	$13 65	
Taxes,	281 46	
Incidental,	21 05	
Total general expense,		$316 16
Operating: —		
Superintendence,	$519 71	
Wages of operators,	1,324 94	
Wages of others,	428 00	
Rent, light and heat,	219 55	
Postage, printing and stationery,	109 24	
Advertising and canvassing,	12 00	
Incidental,	226 92	
Total operating expenses,		2,840 36
Current repair,		1,287 24
Instrument rentals: —		
Exchange,		245 91
Messenger expense,		41 74
Conduit, pole and roof rent,		97 24
Total of all operating expenses,		$4,828 65

General Balance Sheet.

Assets.

Current assets: —		
Cash on hand,	$317 27	
Notes and accounts receivable,	3,320 22	
Total debits,		$3,637 49

Liabilities.

Current liabilities: —	
Audited vouchers and accounts,	$186 03
Balance, surplus,	3,451 46
Total credits,	$3,637 49

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PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$798 43
Gross earnings from operation,		5,110 28
Miscellaneous income,		2,810 52
Operating expenses,	$4,828 65	
Rebates and discounts,	45 65	
Interest on floating debt,	393 47	
Balance, surplus,	3,451 46	
	$8,719 23	$8,719 23

PROPERTY ACCOUNTS (ADDITIONS AND DEDUCTIONS DURING THE YEAR).

Additions.	Items.	Totals.
Exchange construction,	$66 80	
Central office equipment,	1 16	
Subscribers' station equipment,	210 09	
Total exchange construction and equipment,		$278 05
Additions to other permanent property: —		
Tools and teams,		2 86
Total additions,		$280 91
Deductions.		
Construction,	$25,156 28	
Office furniture and fixtures,	11 45	
Tools and teams,	136 75	
Total deductions,		25,304 48
Net deductions from property account for the year,		$25,023 57

GENERAL REMARKS AND EXPLANATIONS.

1. This company has not been operating since Jan. 1, 1909.
2. Distribution of assets of the company to the amount of $15,000 has been made, the same being partial distribution of assets in accordance with vote of stockholders Dec. 15, 1908.

FALL RIVER AUTOMATIC TELEPHONE COMPANY.

Location of principal business office: 215 Bank Street, Fall River, Mass.
Date of organization: Dec. 7, 1899.
Date of incorporation: Dec. 8, 1899.
State in which incorporated: Massachusetts.
Date of annual meeting: second Monday of April.
Date when company began to give service: Oct. 1, 1901.
Service is given by this company over its own lines in Fall River and in the State of Rhode Island.[1]

GENERAL OFFICERS AND OFFICIAL TITLES.

Edward B. Jennings,	*President.*
Bradford D. Davol,	*Treasurer.*
William R. Binkley,	*Superintendent.*
Clark Chase, Jr.,	*Manager and Assistant Treasurer.*

[1] Five instruments are located in the State of Rhode Island.

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Directors and Residences.

Edward B. Jennings,	Fall River, Mass.
Edmund W. Wakelee,	Englewood, N. J.
John T. Swift,	Fall River, Mass.
Joseph Watters,	Fall River, Mass.
Martin Feeney,	Fall River, Mass.
Bradford D. Davol,	Fall River, Mass.
Danforth H. Hathaway,	Fall River, Mass.

Capital.

Capital authorized by charter,	$135,000 00
Capital authorized by vote of company,	135,000 00
Capital paid in, 2,700 shares; par value, $50,	135,000 00
Whole number of stockholders,	68
Number of stockholders resident in Massachusetts,	66
Amount of stock held in Massachusetts (shares),	1,924

Debts.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
June 1, 1903,	June 1, 1923,	Mortgage on land, buildings, licenses, franchise and property.	5	$65,000 00
Total amount of bonds and notes,				$65,000 00
Capital paid in,				135,000 00
Total liability for capital and loans,				$200,000 00.

Condensed Statement of Operating for the Year.

	Items.	Totals.
Gross earnings from operation,	$29,417 85	
Less rebates and discounts,	545 96	
Revenue from operation,		$28,871 89
General expense,	$8,549 81	
Operating expense,	2,690 80	
Current repair,	7,834 03	
Total expenses,		19,074 64
Net revenue from operation,		$9,797 25
Miscellaneous income,		112 02
Total income above expenses,		$9,909 27
Fixed charges: —		
Interest on funded debt,	$3,250 00	
Interest on floating debt,	75 00	
Total fixed charges,		3,325 00
Net divisible income,		$6,584 27
Dividends declared, 4 per cent. on $135,000,		5,400 00
Surplus for year ending June 30, 1909,		$1,184 27

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Earnings.

	Items.	Totals.
Exchange service: —		
Subscribers' rentals,	$28,439 77	
Pay station local tolls,	134 60	
Leased line rentals,	121 41	
Total exchange service,		$28,695 78
Toll service,		722 07
Total gross earnings from operation,		$29,417 85
Less rebates and discounts,		545 96
Revenue from operation,		$28,871 89
Miscellaneous income,		112 02
Total gross earnings and income,		$28,983 91

Expenses.

General expense: —		
Salaries of officers,	$2,999 88	
Salaries of others,	780 00	
Wages of clerks,	864 00	
Rent, light and heat,	439 40	
Travelling,	427 00	
Postage, printing and stationery,	364 25	
Directory,	194 70	
Taxes,	1,336 23	
Legal,	334 28	
Insurance,	358 32	
Incidental,	451 75	
Total general expense,		$8,549 81
Operating: —		
Wages of operators,	$1,198 83	
Wages of others,	1,260 38	
Rent, light and heat,	231 59	
Total operating expense,		2,690 80
Current repair: —		
Exchange overhead lines,	$3,843 33	
Exchange underground lines,	38 05	
Central office equipment,	259 22	
Subscribers' equipment,	3,618 11	
Total overhead lines,	15 15	
Incidental,	60 17	
Total maintenance expense,		7,834 03
Total of all operating expenses,		$19,074 64

General Balance Sheet.

Assets.

Exchange construction: —		
Overhead lines,	$59,268 84	
Underground lines,	72,352 87	
Central office equipment,	25,000 00	
Subscribers' station equipment,	59,277 52	
Total exchange construction and equipment,		$215,899 23
Amount carried forward,		$215,899 23

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	Items.	Totals.
Amount brought forward,		$215,899 23
Toll construction: —		
Overhead lines,		3,746 80
Other real estate required for operation,		11,006 83
Tools and teams,		280 00
Total plant account,		$230,932 86
Contracts and licenses,		10,000 00
Current assets: —		
Cash on hand,	$2,845 01	
Notes and accounts receivable,	3,725 43	
Unexpired insurance,	222 04	
Total current assets,		6,792 48
Total debits,		$247,725 34

Liabilities.

Capital stock, common		$135,000 00
Bonded debt,		65,000 00
Current liabilities: —		
Audited vouchers and accounts,	$984 47	
Salaries and wages unpaid,	249 99	
Total current liabilities,		1,234 46
Accrued liabilities: —		
Interest accrued but not due,	$270 83	
Taxes accrued but not due,	930 45	
Total accrued liabilities,		1,201 28
Sinking and other special funds: —		
Reserve for depreciation,		22,546 52
Total liabilities,		$224,982 26
Balance, surplus,		22,743 08
Total credits,		$247,725 34

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$23,584 43
Gross earnings from operation,		29,417 85
Miscellaneous income,		112 02
Operating expenses,	$19,074 64	
Rebates and discounts,	545 96	
Interest on funded debt,	3,250 00	
Interest on floating debt,	75 00	
For depreciation,	2,025 62	
Dividends declared on stock,	5,400 00	
Balance, surplus,	22,743 08	
	$53,114 30	$53,114 30

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PROPERTY ACCOUNTS (ADDITIONS AND DEDUCTIONS DURING THE YEAR).

Additions.	Items.	Totals.
Central office equipment,	$25,000 00	
Subscribers' station equipment,	801 79	
Total exchange construction and equipment,		$25,801 79
Additions to other permanent property,		113 83
Total additions,		$25,915 62
Deductions.		
Aerial cable,		64 71
Net additions to property account for the year,		$25,850 91

STATISTICAL INFORMATION.

Number of subscribers,	998
Number of instruments,	1,123
Number of operators,	2
Number of pay stations,	12
Number of subscribers on party lines,	97
Number of subscribers on single lines,	901
Underground system: —	
Conduit, feet,	18,691.20
Duct, feet,	101,798.40
Cable, feet,	56,971.20
Wire, feet,	10,841,476.80
Overhead system: —	
Pole line, miles,	59.73
Iron wire, miles,	405.95
Copper wire, miles,	1,093.31

GENERAL REMARKS AND EXPLANATIONS.

1. "Central office equipment account: we have purchased from the Automatic Electric Company our central office equipment; $20,000 of our license account goes toward this and $5,000 for telephones and switches purchased in this year, making a total of $25,000 for our central office account.

"$3,750 has been taken from license account to make that account stand $10,000, and charged to depreciation as royalty paid.

Central office equipment: —	
Taken from license and franchise account,	$20,000
Amount of phones and switches purchased during present year,	5,000
Total central office equipment,	$25,000
License and franchise account: —	
Original charge,	$33,750
Charged to central office equipment,	20,000
	$13,750
Charged to depreciation account, to make license account stand $10,000,	3,750
	$10,000

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2. "Interest on floating debt, $75, is for note of $2,500, which has since been paid."

3. "General expense incidental consists principally of directors' fees, commission on contracts and auditing of books."

4. "We have made a special endeavor during the present year to bring our exchange so as to give as perfect service as possible, necessitating extra expenditures, thereby increasing expenses over previous year although the number of stations is less."

HEATH TELEPHONE COMPANY.

Location of principal business office: Shelburne Falls, Mass.
Date of organization: Association in 1895.
Date of incorporation: Feb. 14, 1898.
State in which incorporated: Massachusetts.
Date of annual meeting: first Monday after October 10.
Date when company began to give service: By the Association in 1895.
Service is given by this company over its own lines in the following towns: —

Ashfield,	Conway,	Monroe,
Buckland,	Hawley,	Rowe,
Charlemont,	Heath,	Shelburne.
Colrain,	Leyden,	

This company also gives service in the State of Vermont.

General Officers and Official Titles.

Walter E. Kinsman,	*President and General Manager.*
Fred L. Totman,	*Vice-President.*
Herbert Newell,	*Clerk and Treasurer.*

Directors and Residences.

Walter E. Kinsman,	Shelburne Falls, Mass.
Fred L. Totman,	Conway, Mass.
Jasper N. Keller,	Boston, Mass.
Fred H. Smith,	Ashfield, Mass.
Fred W. Story,	Boston, Mass.
William A. Barber,	Leyden, Mass.
Matt. B. Jones,	Boston, Mass.
Alexander J. Patterson,	Conway, Mass.
Carl T. Keller,	Boston, Mass.
Charles S. Goodnow,	Whitingham, Vt.
Herbert Newell,	Shelburne Falls, Mass.

Capital.

Capital authorized by charter,	$1,020 00
Capital authorized by vote of company,	96,000 00
Capital paid in, 3,070 shares; par value, $30,	92,100 00

Whole number of stockholders,	358
Number of stockholders resident in Massachusetts,	315
Amount of stock held in Massachusetts (shares),	2,869

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CONDENSED STATEMENT OF OPERATING FOR THE YEAR (WHOLE SYSTEM).

	Items.	Totals.
Gross earnings from operation,[1]		$18,553 27
General expense,	$2,577 04	
Operating expense,	6,794 74	
Current repair,	3,527 60	
Reconstruction,	1,405 17	
Instrument rentals,	188 27	
Other expenses,	120 67	
Total expenses,		14,613 49
Net revenue from operation,		$3,939 78
Fixed charges: —		
Interest on floating debt,		331 39
Surplus for year ending June 30, 1909,		$3,608 39

EARNINGS (WHOLE SYSTEM).

Exchange service: —		
Subscribers' rentals,	$15,547 98	
Miscellaneous exchange earnings,	210 24	
Total exchange service,		$15,758 22
Toll service,		2,795 05
Total gross earnings from operation,		$18,553 27

EXPENSES (WHOLE SYSTEM).

General expense: —		
Salaries of officers,	$1,614 60	
Travelling,	115 14	
Postage, printing and stationery,	73 12	
Directory,	2 50	
Taxes,	708 41	
Legal,	30 00	
Incidental,	33 27	
Total general expense,		$2,577 04
Operating: —		
Superintendence,	$601 50	
Wages of operators,	4,634 61	
Wages of others,	866 14	
Rent, light and heat,	278 00	
Postage, printing and stationery,	414 49	
Total operating expense,		6,794 74
Current repair: —		
Exchange overhead lines,	$1,448 49	
Central office equipment,	364 64	
Subscribers' equipment,	1,714 47	
Total maintenance expense,		3,527 60
Instrument rentals: —		
Toll,		188 27
Conduit, pole and roof rent,		120 67
Total expenses, not including charges for reconstruction,		$13,208 32
Amount carried forward,		$13,208 32

[1] Gross earnings in Massachusetts, $15,049.57.

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	Items.	Totals.
Amount brought forward,		$13,208 32
Reconstruction items: —		
Exchange overhead lines,	$894 74	
Central office equipment,	414 65	
Subscribers' station equipment,	95 78	
Total of reconstruction items charged to expense,		1,405 17
Total of all operating expenses,		$14,613 49

GENERAL BALANCE SHEET.

Assets.

Exchange construction,		$92,079 88
Office furniture and fixtures,		70 50
Tools and teams,		287 72
Repair shop,		37 70
Total plant account,		$92,475 80
Current assets: —		
Cash on hand,	$541 61	
Notes and accounts receivable,	3,928 97	
Supplies on hand,	1,057 26	
Total current assets,		5,527 84
Total debits,		$98,003 64

Liabilities.

Capital stock, common,		$92,100 00
Current liabilities: —		
Audited vouchers and accounts,	$622 99	
Salaries and wages unpaid,	300 00	
Total current liabilities,		922 99
Total liabilities,		$93,022 99
Balance, surplus,		4,980 65
Total credits,		$98,003 64

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$1,372 26
Gross earnings from operation,		18,553 27
Operating expenses, including charges on account of reconstruction,	$14,613 49	
Interest on floating debt,	331 39	
Balance, surplus,	4,980 65	
	$19,925 53	$19,925 53

PROPERTY ACCOUNTS (ADDITIONS DURING THE YEAR).

Exchange construction: —	$31,902 67

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STATISTICAL INFORMATION.

	In Massachusetts.	Outside Massachusetts.	Whole System.
Number of subscribers,	831	276	1,107
Number of instruments,	843	283	1,126
Number of operators,	14	4	18
Number of pay stations,	30	10	40
Number of subscribers on party lines,	824	272	1,096
Number of subscribers on single lines,	7	4	11
Overhead system: —			
Pole line, miles,	280.75	113.5	394.25
Iron wire, miles,	1,087	576	1,663
Copper wire, miles,	54	5	59

GENERAL REMARKS AND EXPLANATIONS.

1. "During this fiscal year, a change in rates and territory has been made, the Deerfield Valley Telephone and Telegraph Company has been purchased and long-distance connection established.

"Under the old method of giving each subscriber his choice of towns within which he could have service without toll charges, it was practically impossible to fix the earnings or divide the expenses accurately between exchanges. These divisions are estimated as closely as possible in making up this report."

2. "Miscellaneous current liabilities is marked 'unknown' for the reason that a portion of the receipts from toll service for the months of April, May and June must be paid to the New England Telephone and Telegraph Company; the pro rata between the two companies not having been determined."

MASSACHUSETTS TELEPHONE AND TELEGRAPH COMPANY.

Location of principal business office: 185 Franklin Street, Boston, Mass.
Date of organization: about Nov. 15, 1898.
Date of incorporation: about Nov. 15, 1898.
State in which incorporated: Massachusetts.
Date of annual meeting: first Monday in November.
Date when company began to give service: 1899.
Service is given by this company over its own lines in Boston, Stoughton and Taunton.

GENERAL OFFICERS AND OFFICIAL TITLES.

A. Norton Taylor,	*President.*
William Shirden,	*Secretary and Treasurer.*

DIRECTORS AND RESIDENCES.

A. Norton Taylor,	Newark, N. J
Fred Jones,	Jersey City, N. J.
William Shirden,	New York, N. Y.
Joseph Q. Taylor,	Taunton, Mass.
Dudley G. Browning,	Newark, N. J.

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CAPITAL.

Capital authorized by charter,	$10,000 00
Capital authorized by vote of company,	10,000 00
Capital paid in, 100 shares; par value, $100,	10,000 00

Whole number of stockholders,	6
Number of stockholders resident in Massachusetts,	1
Amount of stock held in Massachusetts (shares),	1
Amount of stock held by the parent telephone company (shares),	80

DEBTS.

Bonds or notes issued, viz.: —

DATE.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
May 4, 1906,	Demand,	Bonds (when issued),	5	$3,430 00
June 6, 1906,	Demand,	Bonds (when issued),	5	1,750 00
July 8, 1906,	Demand,	Bonds (when issued),	5	1,385 00
Aug. 4, 1906,	Demand,	Bonds (when issued),	5	1,402 00
Sept. 7, 1906,	Demand,	Bonds (when issued),	5	1,675 00
Oct. 6, 1906,	Demand,	Bonds (when issued),	5	1,638 00
Nov. 3, 1906,	Demand,	Bonds (when issued),	5	4,500 00
Dec. 10, 1906,	Demand,	Bonds (when issued),	5	1,337 79
Jan. 3, 1907,	Demand,	Bonds (when issued),	5	4,000 00
Feb. 6, 1907,	Demand,	Bonds (when issued),	5	2,100 00
March 7, 1907,	Demand,	Bonds (when issued),	5	1,600 00
April 4, 1907,	Demand,	Bonds (when issued),	5	1,500 00
May 8, 1907,	Demand,	Bonds (when issued),	5	1,500 00
June 5, 1907,	Demand,	Bonds (when issued),	5	1,800 00
July 6, 1907,	Demand,	Bonds (when issued),	5	1,500 00
Aug. 8, 1907,	Demand,	Bonds (when issued),	5	1,600 00
Sept. 4, 1907,	Demand,	Bonds (when issued),	5	1,600 00
Oct. 5, 1907,	Demand,	Bonds (when issued),	5	5,000 00
Nov. 4, 1907,	Demand,	Bonds (when issued),	5	1,600 00
Dec. 16, 1907,	Demand,	Bonds (when issued),	5	1,500 00
Jan. 10, 1908,	Demand,	Bonds (when issued),	5	3,500 00
Feb. 8, 1908,	Demand,	Bonds (when issued),	5	1,600 00
March 4, 1908,	Demand,	Bonds (when issued),	5	1,600 00
April 4, 1908,	Demand,	Bonds (when issued),	5	1,600 00
May 7, 1908,	Demand,	Bonds (when issued),	5	1,500 00
June 1, 1908,	Demand,	Bonds (when issued),	5	1,800 00
July 7, 1908,	Demand,	Bonds (when issued),	5	1,600 00
July 14, 1908,	Demand,	Bonds (when issued),	5	8,861 01
Aug. 7, 1908,	Demand,	Bonds (when issued),	5	1,800 00
Sept. 12, 1908,	Demand,	Bonds (when issued),	5	1,600 00
Oct. 26, 1908,	Demand,	Bonds (when issued),	5	3,500 00
Oct. 10, 1908,	Demand,	Bonds (when issued),	5	1,600 00
Nov. 7, 1908,	Demand,	Bonds (when issued),	5	1,600 00
Dec. 5, 1908,	Demand,	Bonds (when issued),	5	1,600 00
Jan. 6, 1909,	Demand,	Bonds (when issued),	5	1,600 00
Feb. 9, 1909,	Demand,	Bonds (when issued),	5	1,600 00
March 1, 1909,	Demand,	Bonds (when issued),	5	1,600 00
April 1, 1909,	Demand,	Bonds (when issued),	5	1,600 00
May 1, 1909,	Demand,	Bonds (when issued),	5	1,600 00
June 1, 1909,	Demand,	Bonds (when issued),	5	1,600 00

Total amount of bonds and notes,	$85,778 80
Capital paid in,	10,000 00
Total liability for capital and loans,	$95,778 80

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CONDENSED STATEMENT OF OPERATING FOR THE YEAR.

	Items.	Totals.
Gross earnings from operation,		$5,561 47
General expense,	$6,191 35	
Operating expense,	6,603 42	
Current repair,	1,906 19	
Total expenses,		14,700 96
Net deficit for operation,		$9,139 49
Real estate deficit,		3,218 80
Deficit for year ending June 30, 1909,		$12,358 29

EARNINGS.

Gross earnings from operation: —		
Exchange service: —		
Subscribers' rentals,		$4,911 47
Conduit, pole and roof rent,		650 00
Revenue from operation,		$5,561 47

EXPENSES.

General expense: —		
Salaries,	$1,500 00	
Wages of clerks,	364 00	
Rent, light and heat,	1,500 00	
Travelling,	126 00	
Postage, printing and stationery,	40 00	
Taxes,	133 73	
Legal,	2,000 00	
Damages and compensation,	300 00	
Insurance,	152 62	
Incidental,	75 00	
Total general expense,		$6,191 35
Operating: —		
Superintendence,	$1,854 84	
Wages of operators,	1,716 00	
Wages of others,	1,307 58	
Rent, light and heat,	1,690 00	
Postage, printing and stationery,	10 00	
Incidental,	25 00	
Total operating expenses,		6,603 42
Current repair: —		
Exchange overhead lines,	$280 00	
Exchange underground lines,	800 00	
Central office equipment,	225 00	
Subscribers' equipment,	500 00	
Incidental,	101 19	
Total maintenance expense,		1,906 19
Total of all operating expenses,		$14,700 96

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General Balance Sheet.

Assets.

	Items.	Totals.
Exchange construction: —		
Overhead lines,	$13,461 60	
Underground lines,	92,872 41	
Central office equipment,	14,613 00	
Subscribers' state equipment,	4,059 00	
Total exchange construction and equipment,		$125,006 01
Toll construction: —		
Overhead lines,		$20,718 25
Office furniture and fixtures,		2,328 00
Tools and teams,		144 95
Total plant account,		$148,197 21
Current assets: —		
Cash on hand,	$289 22	
Notes and accounts receivable,	1,092 55	
Supplies on hand,	2,934 36	
Total current assets,		4,316 13
Total debits,		$152,513 34

Liabilities.

Capital stock,	$10,000 00
Current liabilities: —	
Loans and notes payable,	85,778 80
Total liabilities,	$95,778 80
Balance, surplus,	56,734 54
Total credits,	$152,513 34

Profit and Loss Account.

	Dr.	Cr.
Balance from previous year,		$87,743 15
Gross earnings from operation,		6,511 47
Real estate revenue (subrentals),		19,027 83
Operating expenses,	$14,700 96	
Loss of assets,	18,650 32	
Other items: —		
Operating and maintaining leased building,	18,854 23	
Taxes and insurance on building,	3,392 40	
Balance, surplus,	56,734 54	
	$112,332 45	$112,332 45

Statistical Information.

Number of subscribers,	345
Number of instruments,	345
Number of operators,	6
Number of subscribers on party lines,	195
Number of subscribers on single lines,	150

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Underground system: —	
Conduit, feet,	20,299
Duct, feet,	284,598
Cable, feet,	31,761
Wire, feet,	2,935,225
Overhead system: —	
Pole line, miles,	60.5
Iron wire, miles,	408

NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY.

Location of principal business office: 101 Milk Street, Boston, Mass.
Date of organization: Oct. 19, 1883.
Date of incorporation: Oct. 19, 1883.
State in which incorporated: New York.
Date of annual meeting: first Monday in May.
Date when company began to give service: October, 1883.
Cities and towns in Massachusetts in which service is given by the company over its own lines: —

Acton,	Cambridge,	Framingham,
Adams,	Canton,	Franklin,
Agawam,	Carlisle,	Gardner,
Alford,	Charlton,	Georgetown,
Amesbury,	Chelmsford,	Gloucester,
Amherst,	Chelsea,	Goshen,
Andover,	Cheshire,	Grafton,
Arlington,	Chester,	Granby,
Ashburnham,	Chesterfield,	Granville,
Ashby,	Chicopee,	Great Barrington,
Ashland,	Clarksburg,	Greenfield,
Athol,	Clinton,	Greenwich,
Avon,	Cohasset,	Groton,
Auburn,	Concord,	Groveland,
Ayer,	Conway,	Hadley,
Barre,	Cummington,	Hamilton,
Becket,	Dalton,	Hampden,
Bedford,	Dana,	Hancock,
Belchertown,	Danvers,	Hardwick,
Bellingham,	Dedham,	Harvard,
Belmont,	Deerfield,	Hatfield,
Berlin,	Douglas,	Haverhill,
Bernardston,	Dover,	Hawley,
Beverly,	Dracut,	Hingham,
Billerica,	Dudley,	Hinsdale,
Blandford,	Dunstable,	Holbrook,
Bolton,	Easthampton,	Holden,
Boston,	East Longmeadow,	Holland,
Boxborough,	Egremont,	Holliston,
Boxford,	Enfield,	Holyoke,
Boylston,	Erving,	Hopedale,
Braintree,	Essex,	Hopkinton,
Brimfield,	Everett,	Hubbardston,
Brookfield,	Fitchburg,	Hudson,
Brookline,	Florida,	Hull,
Burlington,	Foxborough,	Huntington,

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Hyde Park,
Ipswich,
Lancaster,
Lanesborough,
Lawrence,
Lee,
Leicester,
Lenox,
Leominster,
Lexington,
Leyden,
Lincoln,
Littleton,
Longmeadow,
Lowell,
Ludlow,
Lunenburg,
Lynn,
Lynnfield,
Malden,
Manchester,
Marblehead,
Marlborough,
Maynard,
Medfield,
Medford,
Medway,
Melrose,
Mendon,
Merrimac,
Methuen,
Middlefield,
Middleton,
Milford,
Millbury,
Millis,
Milton,
Monson,
Montague,
Monterey,
Montgomery,
Nahant,
Natick,
Needham,
New Ashford,
New Braintree,
New Marlborough,
Newbury,
Newburyport,
Newton,
Norfolk,
North Adams,
North Andover,
North Brookfield,
North Reading,
Northampton,
Northborough,
Northbridge,
Northfield,
Norwood,
Orange,
Otis,
Oxford,
Palmer,
Paxton,
Peabody,
Pelham,
Pepperell,
Peru,
Petersham,
Phillipston,
Pittsfield,
Plainfield,
Prescott,
Princeton,
Quincy,
Randolph,
Reading,
Revere,
Rockport,
Rowley,
Royalston,
Russell,
Rutland,
Salem,
Salisbury,
Sandisfield,
Saugus,
Savoy,
Sharon,
Sheffield,
Shelburne,
Sherborn,
Shirley,
Shrewsbury,
Somerville,
Southampton,
South Hadley,
Southborough,
Southbridge,
Southwick,
Spencer,
Springfield,
Sterling,
Stockbridge,
Stoneham,
Stoughton,
Stow,
Sturbridge,
Sudbury,
Sunderland,
Sutton,
Swampscott,
Templeton,
Tewksbury,
Tolland,
Topsfield,
Townsend,
Tyngsborough,
Tyringham,
Upton,
Uxbridge,
Wakefield,
Wales,
Walpole,
Waltham,
Ware,
Warren,
Warwick,
Washington,
Watertown,
Wayland,
Webster,
Wellesley,
Wendell,
Wenham,
West Boylston,
West Brookfield,
West Newbury,
West Springfield,
West Stockbridge,
Westborough,
Westfield,
Westford,
Westhampton,
Westminster,
Weston,
Westwood,
Weymouth,
Whately,
Wilbraham,
Williamsburg,
Williamstown,
Wilmington,
Winchendon,
Winchester,
Windsor,
Winthrop,
Woburn,
Worcester,
Worthington,
Wrentham.

This company also gives service in the States of Maine, New Hampshire and Vermont.

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GENERAL OFFICERS AND OFFICIAL TITLES.

Thomas Sherwin,	*President.*
Jasper N. Keller,	*Vice-President.*
Henry S. Hyde,	*Vice-President.*
Francis A. Houston,	*General Manager.*
William R. Driver,	*Treasurer.*
Edmund S. Willard,	*Assistant Treasurer.*
Edmund W. Longley,	*Secretary, Auditor and Comptroller.*
Leslie D. Knowlton,	*Assistant Auditor.*
Matt. B. Jones,	*Counsel.*
William J. Denver,	*Assistant General Manager.*
Fred W. Story,	*Assistant to the Vice-President.*
Moses G. Parker,	*Agent.*

DIRECTORS AND RESIDENCES.

Charles F. Ayer,	Boston, Mass.
John H. Cahill,	New York, N. Y.
Francis H. Dewey,	Worcester, Mass.
William H. Elliott,	Keene, N. H.
Edward J. Hall,	Morristown, N. J.
John F. Hill,	Augusta, Me.
Winfield S. Hutchinson,	Newton, Mass.
Henry S. Hyde,	Springfield, Mass.
Matt. B. Jones,	Newton, Mass.
Moses G. Parker,	Lowell, Mass.
Thomas Sherwin,	Jamaica Plain, Mass.
Theodore N. Vail,	Lyndonville, Vt.

CAPITAL.

Capital authorized by articles of association, and increased from time to time under the general laws,	$50,000,000 00
Capital authorized by vote of company,	39,186,800 00
Capital paid in, 356,244 shares; par value, $100,	35,624,400 00

Whole number of stockholders,	3,832
Number of stockholders resident in Massachusetts,	3,401
Amount of stock held in Massachusetts (shares),	136,519
Amount of stock held by parent telephone company (shares),	208,058

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Debts.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
April 1, 1891,	April 1, 1906,	Debenture,	None.	$5,000 00
April 1, 1895,	April 1, 1915,	Debenture,	5	500,000 00
April 1, 1896,	April 1, 1916,	Debenture,	5	500,000 00
April 1, 1899,	April 1, 1919,	Debenture,	5	500,000 00
Jan. 1, 1900,	Jan. 1, 1930,	Debenture,	4	1,000,000 00
Oct. 1, 1904, [1]	Oct. 1, 1909,	Real estate, Fort Hill Square, Boston,	3½	200,000 00
April 25, 1905, [1]	April 20, 1906,	Real estate, Worcester,	4	12,000 00
March 19, 1908,	Demand,	Granville Telephone Company,	6	2,600 00
Total amount of bonds and notes,				$2,719,600 00
Capital paid in,				35,624,400 00
Total liability for capital and loans,				$38,344,000 00

Condensed Statement of Operating for the Year (Whole System).

	Items.	Totals.
Gross earnings from operation,	$11,351,098 31	
Less rebates and discounts,[2]	319,808 56	
Revenue from operation,[3]		$11,031,289 75
General expense,	$1,375,760 20	
Operating expense,	2,960,285 79	
Current repair,	1,398,396 01	
Reconstruction,	649,258 23	
Deferred maintenance,	1,351,458 02	
Instrument rentals,	507,885 68	
Other expenses,	63,428 89	
Total expenses,		8,306,472 82
Net revenue from operation,		$2,724,816 93
Miscellaneous income: —		
Real estate revenue,	$30,073 42	
Income from securities,	210,012 15	
Other miscellaneous income,	19,918 78	
Total miscellaneous income,		260,004 35
Total income above expenses,		$2,984,821 28

[1] Assumed by New England Telephone and Telegraph Company.
[2] See note 3, page 258.
[3] Revenue from operation in Massachusetts (see note 1, page 258): —

Gross earnings from operation,	$9,339,940 99
Less rebates and discounts,	253,525 65
Revenue from operation,	$9,086,415 34
Miscellaneous income,	217,106 81
Total gross earnings and income,	$9,303,522 15

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	Items.	Totals.
Fixed charges: —		
Interest on funded debt,	$115,000 00	
Interest on floating debt,	46,035 17	
Total fixed charges,		$161,035 17
Surplus of net income above fixed charges,		$2,823,786 11
Dividends declared: —		
1½ per cent. on $35,509,500,	$532,642 50	
6 per cent on $35,624,400,	2,137,464 00	
Total dividends declared,	$2,670,106 50	
Less amount of dividend account charged to surplus,[1]	475,467 00	
		2,194,639 50
Surplus for year ending June 30, 1909,		$629,146 61

EARNINGS (WHOLE SYSTEM).

Gross earnings from operation: —		
Exchange service: —		
Subscribers' rentals,	$7,886,923 27	
Pay station local tolls,	468,095 09	
Terminal charges on long-distance business,	49,267 12	
Leased line rentals,	19,381 19	
Miscellaneous exchange earnings,	24,080 20	
Total exchange service,		$8,447,746 87
Toll service: —		
Toll service,	$2,728,054 76	
Leased line rentals,	43,797 44	
Miscellaneous toll earnings,	299 40	
Total toll service,		2,772,151 60
Private line: —		
Rental of instruments,	$15,539 06	
Miscellaneous earnings,	47,770 37	
Total private line,		63,309 43
Sublicensee: —		
Rental of instruments,	$42,049 69	
Miscellaneous earnings,	25,840 72	
Total sublicensee,		67,890 41
Total gross earnings from operation,		$11,351,098 31
Less rebates and discounts,		319,808 56
Revenue from operation,		$11,031,289 75
Miscellaneous income: —		
Real estate revenue,	$30,073 42	
Dividends on stocks of other companies,	57,289 21	
Interest on bonds and notes of other companies and running accounts,	152,722 94	
Interest on bank deposits,	12,266 41	
Profit on labor and material, $10,131 50		
Less rebates, 2,479 13		
	7,652 37	
Total miscellaneous income,		260,004 35
Total gross earnings and income,		$11,291,294 10

[1] See note 5, page 259.

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EXPENSES (WHOLE SYSTEM).

	Items.	Totals.
General expense: —		
Salaries of officers,[1]	$80,270 45	
Salaries of others,	34,402 68	
Wages of clerks,	118,754 33	
Rent, light and heat,	34,534 07	
Travelling,	7,843 18	
Postage, printing and stationery,	129,688 01	
Directory,	189,645 96	
Taxes,	513,562 45	
Legal,	49,300 68	
Damages and compensation,	30,027 66	
Insurance,	38,210 78	
Incidental (including cost of making inventory of the company's plant, $117,153.41),	149,519 95	
Total general expense,		$1,375,760 20
Operating: —		
Superintendence,[1]	$233,745 39	
Wages of operators,	1,597,235 59	
Wages of others,	541,097 36	
Rent, light and heat,	288,762 90	
Postage, printing and stationery,	72,515 97	
Advertising and canvassing,	148,836 35	
Incidental,	78,092 23	
Total operating expense,		2,960,285 79
Current repairs: [2] —		
Exchange overhead lines,	$427,781 79	
Exchange underground lines,	39,940 63	
Exchange submarine lines,	1,454 15	
Central office equipment,	263,634 85	
Subscribers' equipment,	347,705 58	
Toll overhead lines,	90,869 78	
Toll underground lines,	1,738 54	
Toll submarine lines,	242 48	
Incidental,	88,009 42	
Supervision,	137,018 79	
Total maintenance expense,		1,398,396 01
Instrument rentals: —		
Exchange,	$373,996 79	
Toll,	113,330 97	
Private line,	3,179 19	
Sublicensee,	17,378 73	
Total instrument rentals,		507,885 68
Messenger expense,		3,152 80
Conduit, pole and roof rent,		42,722 27
Sublicensee expenses,		17,553 82
Total expenses, not including charges for reconstruction and deferred repairs,		$6,305,756 57
Amount carried forward,		$6,305,756 57

[1] See note 6, page 259.

[2] See note 4, page 258.

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	Items.	Totals.
Amount brought forward,		$6,305,756 57
Reconstruction items charged to expense:[1] —		
Exchange overhead lines,	$272,868 11	
Exchange underground lines,	51,600 79	
Exchange submarine lines,[2]	392 58	
Central office equipment,	47,450 64	
Subscribers' station equipment,	236,266 44	
Toll overhead lines,	35,385 49	
Toll underground lines,	3,760 54	
Toll submarine lines,	401 18	
Incidental,	1,917 62	
Total of reconstruction items charged to expense,		649,258 23
Deferred maintenance items charged to expense,		1,351,458 02
Total of all operating expenses,		$8,306,472 82

General Balance Sheet.

Assets.

Exchange construction: —		
Right of way,	$58,835 06	
Overhead lines,	10,599,595 08	
Underground lines,	6,574,292 94	
Submarine lines,	22,559 85	
Central office equipment,	4,085,041 38	
Subscribers' station equipment,	2,904,377 29	
Total exchange construction and equipment,		$24,244,701 60
Toll construction: —		
Right of way,	$15,946 05	
Overhead lines,	4,705,229 27	
Underground lines,	643,738 48	
Submarine lines,	5,788 22	
Total toll construction,		5,370,702 02
Construction in process,		499,331 75
Other real estate required for operation,		1,414,811 23
Investment real estate not required for operation,		118,018 15
Office furniture and fixtures,		185,202 39
Tools and teams,		167,153 15
Repair shop,		115,861 46
Total plant account,		$32,115,781 75
Contracts and licenses,		4,268,000 00
Securities of other companies,		2,514,325 58
Current assets: —		
Cash on hand,	$871,739 07	
Notes and accounts receivable,	4,356,165 10	
Supplies on hand,	1,462,643 72	
Unexpired insurance,	13,941 57	
Total current assets,		6,704,489 46
Discount on toll tickets,		144 01
Total debits,		$45,602,740 80

[1] See note 4, page 258.

[2] Credit item.

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Liabilities.	Items.	Totals.
Capital stock,		$35,624,400 00
Bonded debt,		2,505,000 00
Real estate mortgages,		212,000 00
Current liabilities: —		
Loans and notes payable,	$2,600 00	
Audited vouchers and accounts,	273,603 14	
Dividends not called for,	336 00	
Matured interest coupons, unpaid (including due July 1, 1909, $20,000),	22,845 00	
Instalment account of stock,	43,100 00	
Total current liabilities,		$342,484 14
Accrued liabilities: —		
Interest accrued but not due,	$2,043 53	
Interest coupons due Oct. 1, 1909,	18,750 00	
Taxes accrued but not due,	227,907 15	
Dividends payable July 15, 1909,	534,366 00	
Rental charged but not yet accrued,	76,979 09	
Other line service,	78,964 04	
Directory,	50,280 43	
Outstanding toll tickets,	816 71	
Total accrued liabilities,		990,106 95
Sinking and other special funds: —		
For fire insurance,	$213,877 34	
For accident insurance,	120,733 51	
For uncollectible accounts,	485,441 92	
For premium account,	3,802 35	
For maintenance,	2,689,016 94	
Total sinking and other special funds,		3,512,872 06
Total liabilities,		$43,186,863 15
Balance, surplus,		2,415,877 65
Total credits,		$45,602,740 80

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$2,462,198 04
Gross earnings from operation,		11,351,098 31
Real estate revenue,		30,073 42
Dividends received on stock owned by company,		57,289 21
Interest received on bonds and notes,		35,497 10
Interest on running accounts,		114,764 84
Interest on bank balances,		12,266 41
Interest on instalment stock,		1 00
New England Telephone and Telegraph Company bonds,		2,460 00
Profit on material and labor furnished,		7,652 37
Operating expenses, including charges on account of reconstruction and deferred repairs,	$8,166,964 74	
Rebates and discounts,	319,808 56	
Interest on funded debt,	115,000 00	
Interest on floating debt,	46,035 17	
Amounts carried forward,	$8,647,808 47	$14,073,300 70

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	Dr.	Cr.
Amounts carried forward, ...	$8,647,808 47	$14,073,300 70
For depreciation: —		
For material in stock at the supply department,	139,508 08	
For stocks and bonds, ...	200,000 00	
Dividends declared on stock, 6 per cent., . .	2,135,740 50	
Dividends declared on stock, 1½ per cent., due July 15, 1909, ...	534,366 00	
Balance, surplus, ...	2,415,877 65	
	$14,073,300 70	$14,073,300 70

PROPERTY ACCOUNTS (ADDITIONS AND DEDUCTIONS DURING THE YEAR).

Additions.

	Items.	Totals.
Exchange construction: —		
Right of way, ...	$14,549 33	
Overhead lines, ...	487,191 72	
Underground lines, ...	154,587 69	
Submarine lines, ...	3,182 33	
Central office equipment, ...	445,703 84	
Subscribers' station equipment, . . .	377,531 52	
Total exchange construction and equipment,		$1,482,746 43
Toll construction: —		
Right of way, ...	$3,521 05	
Overhead lines, ...	106,084 80	
Underground lines, ...	10,952 89	
Submarine lines,[1]	12 00	
Total toll construction, ...		120,546 74
Sublicensee: —		
Central office equipment, ...	$1,619 77	
Subscribers' station equipment, . . .	6,474 40	
Total sublicensee, ...		8,094 17
Additions to other real estate required for operation, . . .		8,419 08
Office furniture and fixtures, ...		38,581 85
Tools and teams,[1]		14,846 06
Repair shop, ...		2,103 23
Total additions, ...		$1,645,645 44

Deductions.

Sold to sublicensees: —		
Exchange overhead lines, ...	$174,273 01	
Exchange underground lines, . . .	13,657 89	
Central office equipment, ...	22,547 95	
Subscribers' station equipment, . . .	69,234 30	
Toll overhead lines, ...	75,760 92	
Tools, ...	682 46	
Office furniture, ...	1,824 96	
Total deductions, ...		357,981 49
		$1,287,663 95
Construction in process, ...		150,153 03
Net additions to property account for the year, . . .		$1,437,816 98

[1] Credit item.

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STATISTICAL INFORMATION.

	Boston and Suburban Division.	Massachusetts, Outside Boston and Suburban Division.	All Massachusetts.	Outside of Massachusetts.	Whole System.
Number of subscribers,	104,320	85,807	190,127	54,508	244,635
Number of stations,	107,440	88,348	195,788	56,443	252,231
Number of operators,	1,904	1,165	3,069	746	3,815
Number of pay stations,	3,120	2,541	5,661	1,935	7,596
Number of subscribers on party lines,	85,953	74,534	160,487	48,640	209,127
Number of subscribers on single lines,	18,367	11,273	29,640	5,868	35,508
Underground system: —					
Conduit, feet,	1,435,327	1,283,051	2,718,378	312,658	3,031,036
Duct, feet, [1]	8,506,313	5,102,812	13,609,125	1,332,951	14,942,076
Cable, feet,	3,902,152	2,534,494	6,436,646	714,388	7,151,034
Wire, miles,	210,689	108,600	319,289	35,326	354,615
Submarine system: —					
Cable, feet,	22,146	8,023	30,169	123,856	154,025
Wire, miles,	417	146	563	517	1,080
Overhead system: —					
Pole line, miles,	1,076	5,034	6,110	8,538	14,648
Iron wire, miles,	2,210	24,076	26,286	33,541	59,827
Copper wire, miles,	40,010	58,647	98,657	60,592	159,249

GENERAL REMARKS AND EXPLANATIONS.

1. "The revenue within the State which is here reported is the revenue which has been collected within the State of Massachusetts. No deduction has been made for such portion of tolls as were collected within the State but transmitted partly over lines lying without the State. Neither has the separation been made of tolls originating at points outside of the territory of the New England Telephone and Telegraph Company but terminating at points within such territory.

"If such separation were made, it would probably show that a considerable sum collected within the State of Massachusetts had been earned on toll lines located outside of that State."

2. "Distribution of plant account between the various classes of exchange and toll construction is a continuation of those reported by Stone & Webster in their report of April 22, 1907, page 8, and return made last year."

3. "Rebates and discounts include charges incident to maintaining the reserve for uncollectible accounts, the regular discount of 20 per cent. on monthly tolls in excess of $10 from a single telephone, discounts for prompt payment of sub-licensee rentals, and actual losses from uncollectible bills."

4. "Separation of current repair and of reconstruction between exchange and toll accounts has been made as accurately as it has been found possible to make it, but no practical way has been found to properly divide such expenses on pole

[1] Does not include underground connections.

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lines which carry both toll and exchange wires, cables that carry both toll and exchange circuits, switchboards that are used for both toll and exchange connections, wires which at varying times may be used for either toll or exchange purposes, underground conduits which carry both exchange and toll cables, or other portions of the plant that serve partly for exchange and partly for toll purposes. Consequently and unavoidably, the figures here given showing separation between current repair and reconstruction must be considered inaccurate."

5. "One dividend which would have been declared in January, if the practice of previous years had been followed, was declared in December for the purpose of making the dividend year conform with the fiscal year of the company, and an amount equal to the first dividend declared in 1908 was charged against the surplus account."

6. "Reduction in general salaries and wages and increase in operating superintendence is mainly owing to different method of charging, incident to change to the so-called functional organization, which generally went into effect in August, 1908."

7. "Inventory values as determined by the Highway Commission have not yet been entered in the books."

PROVIDENCE TELEPHONE COMPANY OF MASSACHUSETTS.

Location of principal business office: 125 Milk Street, Boston, Mass.
Date of organization: Dec. 2, 1890.
Date of incorporation: Feb. 24, 1891.
State in which incorporated: Massachusetts.
Date of annual meeting: first Tuesday in December.
Date when company began to give service: April 28, 1891.
Service is given by this company over its own lines in the towns of

Attleborough,	North Attleborough,	Rehoboth,
Bellingham,	Norton,	Seekonk.
Blackstone,	Plainville,	

General Officers and Official Titles.

Dexter B. Potter,	*President.*
Charles T. Howard,	*Treasurer.*
Joseph F. Beck,	*General Manager.*
Robert W. Devonshire,	*Clerk.*

Directors and Residences.

Dexter B. Potter,	Providence, R. I.
Charles T. Howard,	Coventry, R. I.
Joseph F. Beck,	Providence, R. I.
Robert W. Devonshire,	Boston, Mass.
Thomas Sherwin,	Boston, Mass.

Capital.

Capital authorized by charter,	$10,000 00
Capital authorized by vote of company,	80,000 00
Additional capital authorized by Commissioner of Corporations,	70,000 00
Capital paid in, 800 shares; par value, $100,	80,000 00

Whole number of stockholders,	6
Number of stockholders resident in Massachusetts,	2
Amount of stock held in Massachusetts (shares),	2
Amount of stock held by the parent telephone company (shares),	795

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Debts.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
Feb. 16, 1909,	Aug. 16, 1909,	- - -	5	$10,000 00
Total amount of bonds and notes,				$10,000 00
Capital paid in,				80,000 00
Total liability for capital and loans,				$90,000 00

Condensed Statement of Operating for the Year.

	Items.	Totals.
Gross earnings from operation,	$49,735 28	
Less rebates and discounts,	488 64	
Revenue from operation,		$49,246 64
General expense,	$7,246 44	
Operating expense,	13,097 58	
Current repair,	9,706 96	
Reconstruction,	6,526 27	
Deferred maintenance,	3,337 94	
Instrument rentals,	2,211 33	
Other expenses,	556 92	
Total expenses,		42,683 44
Net revenue from operation,		$6,563 20
Miscellaneous income,	$839 34	
Interest and conduit rental,	190 05	
Total miscellaneous income,		1,029 39
Total income above expenses,		$7,592 59
Fixed charges: —		
Interest on floating debt,		1,154 47
Surplus for the year ending June 30, 1909,		$6,438 12

Earnings.

Gross earnings from operation: —		
Exchange service: —		
Subscribers' rentals,	$41,440 42	
Pay station local tolls,	957 17	
Terminal charges on long-distance business,	1,104 91	
Miscellaneous exchange earnings,	353 42	
Total exchange service,		$43,855 92
Toll service,		5,834 36
Private line: —		
Rental instruments,		45 00
Total gross earnings from operation,		$49,735 28
Less rebates and discounts,		488 64
Revenue from operation,		$49,246 64
Miscellaneous income,		1,029 39
Total gross earnings and income,		$50,276 03

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Expenses.

	Items.	Totals.
General expense: —		
Salaries of officers,	$1,020 00	
Salaries of others,	1,620 00	
Wages of clerks,	180 00	
Rent, light and heat,	316 68	
Travelling,	110 26	
Postage, printing and stationery,	307 20	
Directory,	852 45	
Taxes,	1,488 99	
Insurance,	401 08	
Incidental,	949 78	
Total general expense,		$7,246 44
Operating: —		
Superintendence,	$366 00	
Wages of operators,	7,105 69	
Wages of others,	1,786 06	
Rent, light and heat,	2,645 83	
Postage, printing and stationery,	174 93	
Advertising and canvassing,	205 97	
Incidental,	813 10	
Total operating expense,		$13,097 58
Current repair: —		
Exchange overhead lines,	$6,194 33	
Exchange underground lines,	86 35	
Central office equipment,	2,299 42	
Subscribers' equipment,	1,097 22	
Incidental,	29 64	
Total maintenance expense,		9,706 96
Instrument rentals,		2,211 33
Conduit, pole and roof rent,		556 92
Total expenses, not including charges for reconstruction and deferred repairs,		$32,819 23
Reconstruction items charged to expense: —		
Exchange overhead lines,	$2,601 07	
Exchange underground lines,	578 53	
Central office equipment,	686 81	
Subscribers' station equipment,	2,659 86	
Total of reconstruction items charged to expense,		6,526 27
Deferred maintenance items charged to expense,		3,337 94
Total of all operating expenses,		$42,683 44

General Balance Sheet.

Assets.

Exchange construction: —		
Overhead lines,	$29,176 13	
Underground lines,	44,430 17	
Central office equipment,	13,172 36	
Subscribers' station equipment,	17,263 57	
Total exchange construction and equipment,		$104,042 23
Amount carried forward,		$104,042 23

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	Items.	Totals.
Amount brought forward,		$104,042 23
Toll construction: —		
Overhead lines,	$4,829 17	
Underground lines,	525 64	
Total toll construction,		5,354 81
Construction in process,		126 71
Office furniture and fixtures,		162 75
Total plant account,		$109,686 50
Current assets: —		
Cash on hand,	$13,743 87	
Notes and accounts receivable,	2,764 78	
Supplies on hand,	1,569 73	
Total current assets,		18,078 38
Total debits,		$127,764 88

Liabilities.

Capital stock, common,		$80,000 00
Current liabilities: —		
Loans and notes payable,	$10,000 00	
Audited vouchers and accounts,	21,397 53	
Salaries and wages unpaid,	134 68	
Total current liabilities,		31,532 21
Accrued liabilities: —		
Reserve for private line,		17 50
Sinking and other special funds: —		
Reserve for bad accounts,	$654 54	
Depreciation reserve,	4,537 94	
Extraordinary repair reserve,	1,200 00	
Total sinking and other special funds,		6,392 48
Total liabilities,		$117,942 19
Balance, surplus,		9,822 69
Total credits,		$127,764 88

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$3,384 57
Gross earnings from operation,		49,735 28
Miscellaneous income,		1,029 39
Operating expenses, including charges on account of reconstruction and deferred repairs,	$42,683 44	
Rebates and discounts,	488 64	
Interest on floating debt,	1,154 47	
Balance, surplus,	9,822 69	
	$54,149 24	$54,149 24

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PROPERTY ACCOUNTS (ADDITIONS AND DEDUCTIONS DURING THE YEAR).

Additions.

	Items.	Totals.
Exchange construction: —		
Overhead lines,	$4,112 85	
Underground lines,	1,335 52	
Central office equipment,	3,114 85	
Subscribers' station equipment,	7,240 64	
Total exchange construction and equipment,		$15,803 86
Office furniture and fixtures,		52 00
Construction in process,		126 71
Total additions,		$15,982 57

Deductions.

Overhead lines,	$1,410 37	
Underground lines,	870 90	
Central office equipment,	686 81	
Subscribers' station equipment,	5,772 84	
Total deductions,		8,740 92
Net additions to property account for the year,		$7,241 65

STATISTICAL INFORMATION.

Number of subscribers,	1,393
Number of instruments,	1,581
Number of operators,	20
Number of pay stations,	31
Number of subscribers on party lines,	1,326
Number of subscribers on single lines,	67
Underground system: —	
Conduit, feet,	19,924.7
Duct, feet,	51,213.7
Cable, feet,	36,356
Wire, feet,	8,630,280
Overhead system: —	
Pole line, miles,	60.87
Iron wire, miles,	814.15
Copper wire, miles,	530.28

GENERAL REMARKS AND EXPLANATIONS.

"Last year we reported certain stations lying near boundary line between Rhode Island and this State which were operated in exchanges in Rhode Island. This year we have not included such stations, regarding them as Rhode Island stations. There are now 299 such subscribers, 304 such instruments and 2 such subscribers on single lines. These are subscribers to service of Providence Telephone Company (of Rhode Island) and not of this company."

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THE SOUTHERN MASSACHUSETTS TELEPHONE COMPANY.

Location of principal business office: 101 Milk Street, Boston, Mass.
Date of organization: Feb. 17, 1880.
Date of incorporation: Feb. 17, 1880.
State in which incorporated: Massachusetts.
Date of annual meeting: second Saturday in February.
Date when company began to give service: February, 1880.
Cities and towns in Massachusetts in which service is given by the company over its own lines: —

Abington,	Falmouth,	Plymouth,
Acushnet,	Freetown,	Plympton,
Avon,	Gay Head,	Provincetown,
Barnstable,	Halifax,	Raynham,
Berkley,	Hanover,	Rehoboth,
Bourne,	Hanson,	Rochester,
Brewster,	Harwich,	Rockland,
Bridgewater,	Kingston,	Sandwich,
Brockton,	Lakeville,	Scituate,
Carver,	Mansfield,	Somerset,
Chatham,	Marion,	Swansea,
Chilmark,	Marshfield,	Taunton,
Dartmouth,	Mashpee,	Tisbury,
Dennis,	Mattapoisett,	Truro,
Dighton,	Middleborough,	Wareham,
Duxbury,	Nantucket,	Wellfleet,
East Bridgewater,	New Bedford,	West Bridgewater,
Eastham,	Norton,	West Tisbury,
Easton,	Norwell,	Westport,
Edgartown,	Oak Bluffs,	Whitman,
Fairhaven,	Orleans,	Yarmouth.
Fall River,	Pembroke,	

This company also gives service in the State of Rhode Island.

General Officers and Official Titles.

Thomas Sherwin,	*President.*
William R. Driver,	*Treasurer.*
Edmund S. Willard,	*Assistant Treasurer.*
Edmund W. Longley,	*Clerk, Auditor and Comptroller.*
Jasper N. Keller,	*Vice-President.*
Francis A. Houston,	*General Manager.*
William J. Denver,	*Assistant General Manager.*
Leslie D. Knowlton,	*Assistant Auditor.*
Webster A. Arey	*Assistant Auditor.*

Directors and Residences.

Charles F. Ayer,	Boston, Mass.
Charles W. Clifford,	New Bedford, Mass.
Theodore N. Vail,	Lyndonville, Vt.
Francis A. Houston,	Concord, Mass.
Jasper N. Keller,	Surry, N. H.
Moses G. Parker,	Lowell, Mass.
Thomas Sherwin,	Jamaica Plain, Mass.

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CAPITAL.

Capital authorized by charter, and increased under the general laws,	$600,000 00
Capital authorized by vote of company,	600,000 00
Capital paid in, 6,000 shares; par value, $100,	600,000 00
Whole number of stockholders,	10
Number of stockholders resident in Massachusetts,	7
Amount of stock held in Massachusetts (shares),	55
Amount of stock held by the parent telephone company (shares),	5,925

DEBTS.

Bonds or notes issued, viz.: —

DATE.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
June 1, 1896,	June 1, 1916,	Debenture,	5	$200,000 00
Total amount of bonds and notes,				$200,000 00
Capital paid in,				600,000 00
Total liability for capital and loans (not including floating debt, $1,407,366.40),				$800,000 00

CONDENSED STATEMENT OF OPERATING FOR THE YEAR (WHOLE SYSTEM).

	Items.	Totals.
Gross earnings from operation,[1]		$783,250 69
Less rebates and discounts,		13,948 89
Revenue from operation,		$769,301 80
General expense,	$58,187 73	
Operating expense,	221,442 56	
Current repair,	119,755 98	
Reconstruction,	52,394 13	
Deferred maintenance,	110,031 46	
Instrument rentals,	34,388 84	
Other expenses,	9,784 52	
Total expenses,		605,985 22
Net revenue from operation,		$163,316 58
Miscellaneous income: —		
Real estate revenue,	$3,349 85	
Other miscellaneous income,	799 53	
Total miscellaneous income,		4,149 38
Total income above expenses,		$167,465 96
Amount carried forward,		$167,465 96

[1] Gross earnings from operation in Massachusetts: —

Gross earnings,	$770,936 65
Less rebates and discounts,	13,789 37
Revenue from operation,	$757,147 28
Miscellaneous income,	4,004 03
Gross earnings and income,	$761,151 31

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	Items.	Totals.
Amount brought forward,		$167,465 96
Fixed charges: —		
Interest on funded debt,	$10,000 00	
Interest on floating debt,	92,722 84	
Total fixed charges,		102,722 84
Surplus of net income above fixed charges,		$64,743 12
Dividends: —		
Dividends declared, 7½ per cent. on $600,000,	$45,000 00	
Less amount of dividend charged to surplus,[1]	9,000 00	
		36,000 00
Surplus for year ending June 30, 1909,		$28,743 12

EARNINGS (WHOLE SYSTEM).

Gross earnings from operation: —		
Exchange service: —		
Subscribers' rentals,	$531,473 99	
Pay station local tolls,	29,176 75	
Terminal charges on long-distance business,	6,060 33	
Leased line rentals,	2,378 13	
Miscellaneous exchange earnings,	2,296 14	
Total exchange service,		$571,385 34
Toll service,		208,973 16
Private line: —		
Rental instruments,	$676 21	
Miscellaneous earnings,	2,215 98	
Total private line,		2,892 19
Total gross earnings from operation,		$783,250 69
Less rebates and discounts,		13,948 89
Revenue from operation,		$769,301 80
Miscellaneous income: —		
Real estate revenue,	$3,349 85	
Interest on bank deposits,	410 67	
Other miscellaneous income,	388 86	
Total miscellaneous income,		4,149 38
Total gross earnings and income,		$773,451 18

EXPENSES (WHOLE SYSTEM).

General expense: —		
Salaries of officers,	$4,805 98	
Salaries of others,	1,240 48	
Wages of clerks,	1,770 43	
Rent, light and heat,	168 93	
Travelling,	268 39	
Postage, printing and stationery,	1,148 88	
Directory,	7,466 24	
Taxes,	12,474 62	
Legal,	2,722 20	
Damages and compensation,	1,629 07	
Insurance,	18,000 00	
Incidental,	6,492 51	
Total general expense,		$58,187 73
Amount carried forward,		$58,187 73

[1] See note 2, page 270.

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	Items.	Totals.
Amount brought forward,		$58,187 73
Operating: —		
Superintendence,	$16,680 24	
Wages of operators,	100,701 57	
Wages of others,	55,388 64	
Rent, light and heat,	14,483 73	
Postage, printing and stationery,	14,394 42	
Advertising and canvassing,	11,449 95	
Incidental,	8,344 01	
Total operating expense,		221,442 56
Current repair: [1] —		
Exchange overhead lines,	$50,807 50	
Exchange underground lines,	3,773 84	
Exchange submarine lines,	265 10	
Central office equipment,	16,473 00	
Subscribers' equipment,	29,212 12	
Toll overhead lines,	6,762 13	
Toll underground lines,	29	
Toll submarine lines,	2 04	
Incidental,	2,817 86	
Supervision,	9,642 10	
Total maintenance expense,		119,755 98
Instrument rentals: —		
Exchange,	$25,141 68	
Toll,	9,101 87	
Private line,	145 29	
Total instrument rentals,		34,388 84
Messenger expense,		684 18
Conduit, pole and roof rent,		9,100 34
Rental switchboard equipment,		19,800 00
Total expenses, not including charges for reconstruction and deferred repairs,		$463,359 63
Reconstruction items charged to expense: [1] —		
Exchange overhead lines,	$22,239 43	
Exchange underground lines,	2,647 22	
Exchange submarine lines,	332 00	
Central office equipment,	3,065 28	
Subscribers' station equipment,	18,432 01	
Toll overhead lines,	5,344 82	
Toll underground lines,	23 44	
Toll submarine lines,	140 07	
Incidental,	169 86	
Total of reconstruction items charged to expense,		52,394 13
Deferred maintenance items charged to expense,		90,231 46
Total of all operating expenses,		$605,985 22

[1] See note 1, page 270.

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GENERAL BALANCE SHEET.

Assets.	Items.	Totals.
Exchange and toll construction,		$2,115,250 86
Construction in process,		57,643 17
Other real estate required for operation,		140,679 10
Office furniture and fixtures,		6,262 82
Tools and teams,		24,090 50
Total plant account,		$2,343,926 45
Securities of other companies,		70 00
Current assets: —		
Cash on hand,	$73,922 33	
Notes and accounts receivable,	136,032 63	
Supplies on hand,	59,568 90	
Total current assets,		269,523 86
Total debits,		$2,613,520 31
Liabilities.		
Capital stock, common,		$600,000 00
Bonded debt,		200,000 00
Current liabilities: —		
Audited vouchers and accounts,	$1,396,503 90	
Matured interest coupons unpaid (including due June 1, 1909),	1,862 50	
Total current liabilities,		1,398,366 40
Accrued liabilities: —		
Interest accrued but not due,	$813 28	
Dividends payable July 15, 1909,	9,000 00	
Taxes accrued but not due,	5,908 08	
Rental charged but not yet accrued,	6,446 29	
Other line service,	6,998 09	
Directory,	3,456 57	
Total accrued liabilities,		32,622 31
Sinking and other special funds: —		
Reserve for fire insurance,	$26,198 19	
Reserve for uncollectible accounts,	37,955 29	
Reserve for deferred maintenance,	209,963 49	
Reserve for accident insurance,	1,948 30	
Total sinking and other special funds,		276,065 27
Total liabilities,		$2,507,053 98
Balance, surplus,		106,466 33
Total credits,		$2,613,520 31

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$86,723 21
Gross earnings from operation,		783,250 69
Miscellaneous income,		799 53
Real estate revenue,		3,349 85
Operating expenses, including charges on account of reconstruction and deferred repairs,	$598,311 82	
Rebates and discounts,	13,948 89	
Amounts carried forward,	$612,260 71	$874,123 28

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	Dr.	Cr.
Amounts brought forward,	$612,260 71	$874,123 28
Interest on funded debt,	10,000 00	
Interest on floating debt,	92,722 84	
For depreciation of material in stock at the supply department,	7,673 40	
Dividends declared on stock, 6 per cent.,	36,000 00	
Dividends declared on stock, 1½ per cent., due July 15, 1909,	9,000 00	
Balance, surplus,	106,466 33	
	$874,123 28	$874,123 28

PROPERTY ACCOUNTS (ADDITIONS DURING THE YEAR).

	Items.	Totals.
Exchange construction: —		
Right of way,	$5,979 78	
Overhead lines,	43,321 53	
Underground lines,	16,717 14	
Submarine lines,	481 77	
Central office equipment,	11,431 91	
Subscribers' station equipment,	31,331 14	
Total exchange construction and equipment,		$109,263 27
Toll construction: —		
Right of way,	$8 48	
Overhead lines,	264 85	
Underground lines,	291 40	
Submarine lines,	111 52	
Total toll construction,		676 25
Construction in process,		48,191 20
Office furniture and fixtures,		1,764 53
Tools and teams,		4,586 79
Net additions to property account for the year,		$164,482 04

STATISTICAL INFORMATION.

	In Massachusetts.	Outside Massachusetts.	Whole System.
Number of subscribers,	22,350	278	22,628
Number of stations,	23,233	294	23,527
Number of operators,	285.5	–	285.5
Number of pay stations,	883	16	899
Number of subscribers on party lines,	20,049	275	20,324
Number of subscribers on single lines,	2,301	3	2,304
Underground system: —			
Conduit, feet,	310,824	–	310,824
Duct, feet,[1]	1,372,549	–	1,372,549
Cable, feet,	441,131	–	441,131
Wire, miles,	20,188	–	20,188
Submarine system: —			
Cable, feet,	22,493	7,298	29,791
Wire, miles,	117	66	183
Overhead system: —			
Pole line, miles,	1,670	59	1,729
Iron wire, miles,	9,759	453	10,212
Copper wire, miles,	15,377	121	15,498

[1] Does not include underground connections.

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GENERAL REMARKS AND EXPLANATIONS.

1. "Separation of current repair and of reconstruction has been made as accurately as it has been found possible to make it, but no practical way has been found to properly divide such expenses on pole lines which carry both toll and exchange wires, cables that carry both toll and exchange circuits, switchboards that are used for both toll and exchange connections, wires which at varying times may be used for either toll or exchange purposes, underground conduits which carry both exchange and toll cables, or other portions of the plant that serve partly for exchange and partly for toll purposes. Consequently and unavoidably the figures here given showing separation between current repair and reconstruction must be considered inaccurate."

2. "One dividend, which would have been declared in January if the practice of previous year had been followed, was declared in December for the purpose of making the dividend year conform with the fiscal year of the company, and an amount equal to the first dividend declared in 1908 was charged against the surplus account."

NONOPERATING AND SMALL TELEPHONE COMPANIES.

BEECHMONT INDEPENDENT TELEPHONE COMPANY.

Location of principal business office: East Windsor, Mass.
Date of organization: January, 1906.
Date of annual meeting: the last Saturday in June.
Date when company began to give service: February, 1906.
Service is given by this company over its own lines in the towns of Cummington, Peru and Windsor.

GENERAL OFFICERS AND OFFICIAL TITLES.

Oscar D. Jacobs,	*President.*
William R. Pierce,	*Treasurer and Manager.*
Florice B. Pierce,	*Secretary.*

CAPITAL.

Capital paid in,	$500 00
Number of stockholders,	8
Number of stockholders resident in Massachusetts,	8

EARNINGS AND EXPENSES.

Gross earnings,	$80 00
Expenses,	15 05
Net earnings,	$64 95
Surplus balance from last year,	121 00
Surplus, June 30, 1909,	$185 95

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$500 00
Notes and accounts receivable,	172 00
Supplies on hand,	28 00
Total debits,	$700 00

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Liabilities.

Capital stock,	$500 00
Accounts payable,	14 05
Surplus,	185 95
Total credits,	$700 00

STATISTICAL INFORMATION.

Number of subscribers,	11
Number of instruments,	13
Overhead system: —	
Pole line, miles,	6
Iron wire, miles,	6

BERNARDSTON AND GILL TELEPHONE COMPANY.

Location of principal business office: Bernardston, Mass.
Date when company began to give service: Feb. 1, 1903.
Service is given by this company over its own lines in the towns of Bernardston, Gill and Leyden.

GENERAL OFFICERS.

A. H. and C. R. Nelson, *Managers.*

CAPITAL.

Capital paid in,	$4,000 00

EARNINGS AND EXPENSES.

Gross earnings,	$2,004 24
Expenses,	777 12
Net earnings,	$1,227 12

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$4,000 00
Accounts receivable,	250 00
Supplies on hand,	10 00
Total debits,	$4,260 00

Liabilities.

Capital stock,	$4,000 00
Surplus,	260 00
Total credits,	$4,260 00

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STATISTICAL INFORMATION.

Number of subscribers,	111
Number of instruments,	115
Number of operators,	3
Number of pay stations,	4
Number of subscribers on party lines,	111
Overhead system: —	
Pole line, miles,	43
Iron wire, miles,	115

NOTE. — "Tolls went to operators for their fees, let it be whatever it is, probably amounting to about $25 per month to them. A record is kept by the New England Telephone and Telegraph Company of the tolls, and must be returned by them."

THE BOLTON TELEPHONE COMPANY.

Location of principal business office: Bolton, Mass.
Date of organization: January, 1906.
Date of incorporation: January, 1906.
State in which incorporated: Massachusetts.
Date of annual meeting: January 15.
Date when company began to give service: January, 1906.
Service is given by this company over its own lines in the town of Bolton.

GENERAL OFFICERS AND OFFICIAL TITLES.

Edward D. Emerson,	*President.*
Franklin J. Hamblin,	*Treasurer.*

DIRECTORS AND RESIDENCES.

Edward D. Emerson,	Bolton, Mass.
William E. Litchfield,	Newton, Mass.
Franklin J. Hamblin,	Bolton, Mass.

CAPITAL.

Capital paid in,	$1,500 00
Number of stockholders,	25
Number of stockholders resident in Massachusetts,	25

DEBTS.

Amount of notes outstanding,	$400 00

EARNINGS AND EXPENSES.

Gross earnings: —	
Exchange service,	$1,003 75
Toll service,	202 71
Total gross earnings,	$1,206 46
Expenses,	890 95
Net earnings,	$315 51
Interest payments,	6 47
Net profit,	$309 04
Surplus balance from last year,	394 32
Surplus, June 30, 1909,	$703 36

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GENERAL BALANCE SHEET.

Assets.

Property accounts,	$1,931 69
Notes and accounts receivable,	53 58
Cash on hand,	347 41
Reserve fund,	334 10
Total debits,	$2,666 78

Liabilities.

Capital stock,	$1,500 00
Notes payable,	400 00
Accounts payable,	56 95
Other liabilities,	6 47
Surplus,	703 36
Total credits,	$2,666 78

STATISTICAL INFORMATION.

Number of subscribers,	52
Number of instruments,	54
Number of operators,	1
Number of pay stations,	1
Number of subscribers on party lines,	52
Overhead system: —	
Pole line, miles,	20.5
Iron wire, miles,	49

CHELMSFORD TELEPHONE COMPANY.

Location of principal business office: Chelmsford, Mass.
Date of organization: Dec. 23, 1903.
Date of annual meeting; first Monday in January.
Date when company began to give service: Jan. 4, 1904.
Service is given by this company over its own lines in the town of Chelmsford.

GENERAL OFFICERS AND OFFICIAL TITLES.

Joseph E. Warren,	*President.*
Eben T. Adams,	*Clerk and Treasurer.*

CAPITAL.

Capital paid in,	$500 00

EARNINGS AND EXPENSES.

Gross earnings,	$158 07
Expenses,	157 54
Net earnings,	$0 53

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$500 00
Supplies on hand,	10 00
Cash on hand,	35 76
Total debits,	$545 76

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Liabilities.

Capital stock,	$500 00
Balance, surplus,	45 76
Total credits,	$545 76

Statistical Information.

Number of subscribers,	26
Number of instruments,	31
Number of operators,	1
Number of subscribers on party lines,	26
Overhead system: —	
Pole line, miles,	8
Iron wire, miles,	16

COLUMBIA AND RENSSELAER TELEPHONE AND TELEGRAPH COMPANY.

Location of principal business office: West Lebanon, N. Y.
Date of organization: March, 1894.
Date of incorporation: March, 1894.
State in which incorporated: New York.
Date of annual meeting: July 5.
Date when company began to give service: March, 1894.
Service is given by this company over its own lines in the town of Hancock, Mass., and in the State of New York.

General Officers and Official Titles.

Abner S. Haight,	*President.*
Warren Fowler,	*Vice-President and General Manager.*
Mary J. Fowler,	*Secretary and Treasurer.*

Directors and Residences.

Abner S. Haight,	61 Worth Street, New York, N. Y.
Warren Fowler,	West Lebanon, N. Y.
Harriet E. Haight,	61 Worth Street, New York, N. Y.
Mary J. Fowler,	West Lebanon, N. Y.
Frederick E. Haight,	61 Worth Street, New York, N. Y.
Austin D. Haight,	New Lebanon Center, N. Y.
May F. Fowler,	West Lebanon, N. Y.

Capital.

Capital paid in,	$1,000 00
Number of stockholders,	7
Number of stockholders resident in Massachusetts,	None.

Debts.

Amount of notes outstanding,	$2,500 00

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EARNINGS AND EXPENSES.

Gross earnings:	$12,194 35
Expenses,	6,724 60
Net earnings,	$5,469 75
Interest payments,	225 73
Net profit,	$5,244 02
Surplus balance from last year,	20,406 32
Surplus June 30, 1909,	$25,650 34

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$28,565 85
Notes and accounts receivable,	1,297 95
Cash on hand,	599 54
Total debits,	$30,463 34

Liabilities.

Capital stock,	$1,000 00
Notes payable,	2,500 00
Accounts payable,	1,313 00
Balance, surplus,	25,650 34
Total credits,	$30,463 34

STATISTICAL INFORMATION.

Number of subscribers,	628
Number of instruments,	654
Number of operators,	10
Number of pay stations,	10
Number of subscribers on party lines,	625
Number of subscribers on single lines,	3
Overhead system: —	
Pole line, miles,	120
Iron wire, miles,	650

NOTE. — "We have no poles in Massachusetts. One circuit on poles of other lines, about one mile in length, with one subscriber. We have fourteen instruments connected to lines owned by farmers, which includes everything we have in Massachusetts. Entire gross income from Massachusetts for year ending June 30, 1909, is less than $200."

CRESCENT TELEPHONE COMPANY.

Location of principal business office: New Salem, Mass.
Date of organization: October, 1902.
Date when company began to give service: October, 1902.
Service is given by this company over its own lines in the towns of Orange and New Salem.

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GENERAL OFFICER.

Levi Wallace Flagg,	*Owner.*

CAPITAL.

Capital paid in,	$1,200 00

EARNINGS AND EXPENSES.

Gross earnings,	$134 00
Expenses,	12 00
Net earnings,	$122 00
Dividends,	122 00

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$900 00
Notes and accounts receivable,	48 00
Supplies on hand,	25 00
Balance, deficit,	227 00
Total debits,	$1,200 00

Liabilities.

Capital stock,	$1,200 00
Total credits,	$1,200 00

STATISTICAL INFORMATION.

Number of subscribers,	19
Number of instruments,	22
Number of subscribers on party lines,	19
Overhead system: —	
Pole line, miles,	13
Iron wire, miles,	26

THE FARMERS MUTUAL TELEPHONE COMPANY OF BRISTOL COUNTY.

Location of principal business office: Norton, Mass.
Date of organization: Sept. 5, 1902.
Date of incorporation: Sept. 2, 1902.
State in which incorporated: Massachusetts.
Date of annual meeting: second Tuesday in May.
Date when company began to give service: previous to January, 1903.
Service is given by this company over its own lines in Norton, Mass.

GENERAL OFFICERS AND OFFICIAL TITLES.

Arthur M. Round,	*President.*
Charles B. Caswell,	*Clerk and Treasurer.*
Frank A. Clapp,	*Superintendent.*

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DIRECTORS AND RESIDENCES.

Arthur M. Round,	Norton, Mass.
Samuel V. Cole,	Norton, Mass.
Frank A. Clapp,	Norton, Mass.
Charles G. Clapp,	Norton, Mass.
Homer L. Lane,	Norton, Mass.

CAPITAL.

Capital paid in,	$1,100 00
Number of stockholders,	13
Number of stockholders resident in Massachusetts,	13

DEBTS.

Amount of notes outstanding,	$125 00

EARNINGS AND EXPENSES.

Gross earnings,	$132 00
Expenses,	79 66
Net earnings,	$52 34

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$1,324 00
Cash on hand,	24 83
Total debits,	$1,348 83

Liabilities.

Capital stock,	$1,100 00
Notes payable,	125 00
Other liabilities,	49 49
Balance, surplus,	74 34
Total credits,	$1,348 83

STATISTICAL INFORMATION.

Number of subscribers,	16
Number of instruments,	22
Number of subscribers on party lines,	14
Number of subscribers on single lines,	2
Overhead system: —	
Pole line, miles,	6
Iron wire, miles,	6

GRANBY TELEPHONE AND TELEGRAPH COMPANY.

Location of principal business office: Granby, Mass.
Date of organization: February, 1903.
Date of incorporation: February, 1903.
State in which incorporated: Massachusetts.
Date of annual meeting: third Monday of January.
Date when company began to give service: May, 1903.
Service is given by this company over its own lines in the towns of Granby and Ludlow.

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General Officers and Official Titles.

George R. Smith,	*President.*
W. F. Forward,	*Manager.*
W. A. Taylor,	*Secretary and Treasurer.*
H. H. Moody,	*Auditor.*

Directors and Residences.

H. H. Moody,	Granby, Mass.
D. C. Nutting,	Granby, Mass.
George R. Smith,	Granby, Mass.
George F. Bell,	Granby, Mass.
A. T. Warner,	Granby, Mass.
H. S. Taylor,	Granby, Mass.
W. F. Forward,	Granby, Mass.

Capital.

Capital paid in,	$1,200 00
Number of stockholders,	34
Number of stockholders resident in Massachusetts,	33
Amount of stock held in Massachusetts,	$1,100 00

Earnings and Expenses.

Gross earnings:—	
Exchange service,	$669 66
Miscellaneous earnings,	112 60
Total gross earnings,	$782 26
Expenses,	722 23
Net earnings,	$60 03
Interest payments,	12 09
Net profit,	$47 94

General Balance Sheet.

Assets.

Property accounts,	$1,200 00
Notes and accounts receivable,	76 50
Balance, deficit,	64 29
Total debits,	$1,340 79

Liabilities.

Capital stock,	$1,200 00
Accounts payable,	123 00
Other liabilities,	17 79
Total credits,	$1,340 79

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STATISTICAL INFORMATION.

Number of subscribers,	53
Number of instruments,	53
Number of operators,	1
Number of pay stations,	1
Number of subscribers on party lines,	53
Overhead system: —	
Pole line, miles,	14
Iron wire, miles,	28

HAMPDEN AUTOMATIC TELEPHONE COMPANY.

Location of principal business office: 307 Main Street, Springfield, Mass.
Date of organization: Feb. 3, 1900.
Date of incorporation: Feb. 8, 1900.
State in which incorporated: Massachusetts.
Date of annual meeting: first Tuesday in April.

GENERAL OFFICERS AND OFFICIAL TITLES.

Charles H. Churchill,	*President.*
William E. Wright,	*Vice-President.*
Samuel D. Sherwood,	*Treasurer.*
Edward W. Beattie, Jr.,	*Auditor.*
Fred A. Delabarre,	*Clerk.*

DIRECTORS AND RESIDENCES.

Charles H. Churchill,	Springfield, Mass.
Samuel D. Sherwood,	Springfield, Mass.
Orlando M. Baker,	Springfield, Mass.
Daniel E. Leary,	Springfield, Mass.
William E. Wright,	Springfield, Mass.
William G. McKechnie,	Springfield, Mass.
Joseph T. Herrick,	Springfield, Mass.
Fred A. Delabarre,	Conway, Mass.

CAPITAL.

Capital paid in,	$7,480 00
Number of stockholders,	11
Number of stockholders resident in Massachusetts,	11

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$7,174 33
Cash on hand,	305 67
Total debits,	$7,480 00

Liabilities.

Capital stock,	$7,480 00
Total credits,	$7,480 00

NOTE. — This is not an operating company.

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HEATH LOCAL TELEPHONE ASSOCIATION.

Location of principal business office: North Heath, Mass.
Date of organization: Nov. 1, 1906.
Date when company began to give service: Nov. 1, 1906.
Service is given by this company over its own lines in the town of Heath.

General Officers and Official Titles.

Isaac W. Stetson,	*President and General Manager.*
Clifford J. Hager,	*Clerk and Treasurer.*

Directors and Residences.

Isaac W. Stetson,	North Heath, Mass.
Clifford J. Hager,	Dell, Mass.
Levi Lively,	Dell, Mass.
Fred Stone,	Cyrus, Mass.

Capital.

Capital paid in,	$810 00
Number of stockholders,	10
Number of stockholders resident in Massachusetts,	10

Earnings and Expenses.

Gross earnings: —	
Exchange service,	$576 00
Toll service,	23 30
Total gross earnings,	$599 30
Expenses,	592 44
Net earnings,	$6 86
Dividends,	47 70
Deficit for the year,	$40 84

General Balance Sheet.

Assets.

Property accounts,	$1,100 00
Notes and accounts receivable,	83 47
Supplies on hand,	25 00
Cash on hand,	15 50
Total debits,	$1,223 97

Liabilities.

Capital stock,	$810 00
Accounts payable,	186 79
Balance, surplus,	227 18
Total credits,	$1,223 97

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STATISTICAL INFORMATION.

Number of subscribers,	72
Number of instruments,	75
Number of operators,	2
Number of pay stations,	4
Number of subscribers on party lines,	72
Overhead system: —	
Pole line, miles,	21
Iron wire, miles,	56

NOTE. — "Free service was to be given to all of our subscribers to the Heath Telephone Company, when we purchased the territory of them, for like service to us in the town of Charlemont, Mass."

THE HIGHLAND TELEPHONE COMPANY.

Location of principal business office: Cooleyville, Mass.
Date of organization: May 22, 1907.
Date of incorporation: Aug. 9, 1907.
State in which incorporated: Massachusetts.
Date of annual meeting: first Monday in May.
Date when company began to give service: Sept. 1, 1901.
Service is given by this company over its own lines in the towns of Leverett, New Salem, Prescott and Shutesbury.

GENERAL OFFICERS AND OFFICIAL TITLES.

Willard Putnam,	*President.*
Rawson King,	*Secretary and Treasurer.*

DIRECTORS AND RESIDENCES.

Willard Putnam,	Cooleyville, Mass.
Rawson King,	Cooleyville, Mass.
Martha E. King,	Cooleyville, Mass.

CAPITAL.

Capital paid in,	$5,000 00
Number of stockholders,	4
Number of stockholders resident in Massachusetts,	4

DEBTS.

Amount of notes outstanding,	$800 00

EARNINGS AND EXPENSES.

Gross earnings: —	
Exchange service,	$2,434 62
Toll service,	15 00
Total gross earnings,	$2,449 62
Expenses,	1,189 29
Net earnings,	$1,260 33

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GENERAL BALANCE SHEET.

Assets

Property accounts,	$5,800 00
Notes and accounts receivable,	450 00
Supplies on hand,	50 00
Cash on hand,	53 46
Total debits,	$6,353 46

Liabilities.

Capital stock,	$5,000 00
Notes payable,	800 00
Balance, surplus,	553 46
Total credits,	$6,353 46

STATISTICAL INFORMATION.

Number of subscribers,	140
Number of instruments,	150
Number of operators,	1
Number of subscribers on party lines,	140
Overhead system: —	
Pole line, miles,	50
Iron wire, miles,	200

NOTE. — "We are obliged to estimate notes and accounts receivable."

LITTLETON TELEPHONE ASSOCIATION.

Location of principal business office: Littleton, Mass.
Date of organization: April 18, 1904.
Date of annual meeting: first Monday in April.
Date when company began to give service: about Oct. 1, 1904.
Service is given by this company over its own lines in the towns of Harvard, Littleton and Westford.

GENERAL OFFICERS AND OFFICIAL TITLES.

Frank B. Priest,	*President.*
J. Melvin Hartwell,	*Treasurer.*

CAPITAL.

Capital paid in,	$1,350 00
Number of stockholders,	58
Number of stockholders resident in Massachusetts,	58

EARNINGS AND EXPENSES.

Gross earnings: —	
Exchange service,	$552 00
Miscellaneous earnings,	75 00
Total gross earnings,	$627 00
Expenses,	500 85
Net earnings,	$126 15

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GENERAL BALANCE SHEET.

Assets.

Property accounts,	$1,350 00
Notes and accounts receivable,	145 96
Supplies on hand,	26 00
Cash on hand,	60 65
Total debits,	$1,582 61

Liabilities.

Capital stock,	$1,350 00
Accounts payable,	211 30
Balance, surplus,	21 31
Total credits,	$1,582 61

STATISTICAL INFORMATION.

Number of subscribers,	59
Number of instruments,	55
Number of subscribers on party lines,	59
Overhead system: —	
Pole line, miles,	21
Iron wire, miles,	42

NANTUCKET TELEPHONE COMPANY.

Location of principal business office: 26 Pine Street, Nantucket, Mass.
Date of re-organization: May 28, 1896.
Date of incorporation: July 29, 1896.
State in which incorporated: Massachusetts.
Date of annual meeting: first Tuesday in April.
Date when company began to give service: April 18, 1895.

GENERAL OFFICER.

William T. Devlan,	*President and Treasurer.*

DIRECTORS AND RESIDENCES.

William T. Devlan,	Nantucket, Mass.
Charles H. Robinson,	Nantucket, Mass.
John S. Grouard,	Nantucket, Mass.
Isaac Hills,	Nantucket, Mass.
Robert K. Appleton,	Nantucket, Mass.

CAPITAL.

Capital paid in,	$2,500 00
Number of stockholders,	42
Number of stockholders resident in Massachusetts,	42

NOTE. — This company has not operated for several years and has no property except franchise.

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THE NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY OF MASSACHUSETTS.

Location of principal business office: 119 Milk Street, Boston, Mass.
Date of organization: May 17, 1888.
Date of incorporation: May 17, 1888.
State in which incorporated: Massachusetts.
Date of annual meeting: first Wednesday in April.

General Officers and Official Titles.

Jasper N. Keller,	*President.*
Francis A. Houston,	*General Manager.*
Edmund S. Willard,	*Treasurer.*
Edward A. Wilkie,	*Clerk.*
William J. Denver,	*Assistant General Manager.*
Edmund W. Longley,	*Auditor.*
Carl T. Keller,	*Assistant General Manager.*

Directors and Residences.

Jasper N. Keller,	Surry, N. H.
William J. Denver,	Roxbury, Mass.
Francis A. Houston,	Concord, Mass.
Edmund W. Longley,	Salem, Mass.

Capital.

Capital authorized by certificate of association,	$25,000 00
Capital authorized by vote of company,	25,000 00
Capital paid in, 250 shares; par value, $100,	25,000 00
Whole number of stockholders,	5
Number of stockholders resident in Massachusetts,	3
Amount of stock held in Massachusetts (shares),	15
Amount of stock held by parent telephone company (shares),	230

Debts.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
May 18, 1889,	Demand,	Real estate mortgage,	4	$10,000 00
Dec. 31, 1908,	Demand,	–	6	418,399 28
Total amount of bonds and notes,				$428,399 28
Capital paid in,				25,000 00
Total liability for capital and loans,				$453,399 28

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CONDENSED STATEMENT OF OPERATING FOR THE YEAR.

Miscellaneous income: —	
Real estate revenue,	$30,137 25
General expense, salaries of officers,	2,000 04
Total income above expenses,	$28,137 21
Fixed charges: —	
Interest on floating debt,	25,569 81
Surplus for the year	$2,567 40

GENERAL BALANCE SHEET.

Assets.	Items.	Totals.
Exchange and toll construction,		$33,000 00
Investment real estate not required for operation,		493,474 31
Total plant account,		$526,474 31
Current assets: —		
Cash on hand,	$457 71	
Notes and accounts receivable,	496 55	
Total current assets,		954 26
Total debits,		$527,428 57
Liabilities.		
Capital stock, common,		$25,000 00
Real estate mortgages,		10,000 00
Current liabilities: —		
Loans and notes payable,		451,399 28
Accrued liabilities: —		
Interest accrued but not due,		233 33
Total liabilities,		$486,632 61
Balance, surplus,		40,795 96
Total credits,		$527,428 57

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$38,228 56
Real estate revenue,		30,137 25
Operating expenses,	$2,000 04	
Interest on floating debt,	25,569 81	
Balance, surplus,	40,795 96	
	$68,365 81	$68,365 81

PROPERTY ACCOUNTS (ADDITIONS DURING THE YEAR).

Real estate not required for operation,	$1,071 91

NOTE. — This is not an operating company.

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NORTHFIELD FARMS TELEPHONE COMPANY.

Location of principal business office: Northfield Farms, Mass.
Date when company began to give service: 1902.
Service is given by this company over its own lines in the town of Northfield.

General Officer.

Osgood L. Leach,	*Manager*

Capital.

Capital paid in,	$300 00
Number of stockholders,	2
Number of stockholders resident in Massachusetts,	2

Earnings and Expenses.

Gross earnings,	$375 92
Expenses,	241 05
Net earnings,	$134 87

General Balance Sheet.

Assets.

Property accounts,	$300 00

Liabilities.

Capital stock,	$300 00

Statistical Information.

Number of subscribers,	24
Number of instruments,	25
Number of pay stations,	1
Number of subscribers on party lines,	24
Overhead system: —	
Pole line, miles,	7
Iron wire, miles,	7

NORTH ORANGE TELEPHONE COMPANY.

Location of principal business office: North Orange, Mass.
Date of organization: April 29, 1902.
Date when company began to give service: about June 1, 1902.
Service is given by this company over its own lines in the town of Orange.

General Officer.

H. W. Gilmore,	*General Manager.*

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EARNINGS AND EXPENSES.

Gross earnings,	$30 95
Expenses,	13 90
Surplus for the year,	$17 05
Surplus balance from last year,	54 24
Surplus June 30, 1909,	$71 29

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$500 00

Liabilities.

Capital stock,	$500 00

STATISTICAL INFORMATION.

Number of subscribers,	46
Number of instruments,	46
Number of operators,	1
Number of subscribers on party lines,	46
Overhead system: —	
Pole line, miles,	10
Iron wire, miles,	10

NOTE. — "This company is composed of farmers, who built the lines for their own convenience, and is repaired and supported by the owners. It is composed of five lines, each having its own president and other officers; the repairs of the lines being done by the farmers themselves; the boxes and inside work being done by the manager or by one of the New England Telephone and Telegraph Company men, who is paid from the income from the tolls coming over the New England Telephone and Telegraph Company line connected at North Orange store with the other lines of the farmers. The boxes are hired from the New England Telephone and Telegraph Company."

OAKHAM AND COLDBROOK SPRINGS TELEPHONE COMPANY.

Location of principal business office: Oakham, Mass.
Date of organization: June 1, 1893.
Date when company began to give service: July 16, 1903.
Service is given by this company over its own lines in the towns of Barre and Oakham.

GENERAL OFFICERS.

Frank S. Conant,	*President and General Manager.*
Harry B. Parker,	*Treasurer.*

CAPITAL.

Capital paid in,	$1,500 31

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Debts.

Amount of notes outstanding,	400 00

Earnings and Expenses.

Gross earnings: —	
Exchange service,	$834 65
Toll service,	187 85
Miscellaneous earnings,	39 22
Total gross earnings,	$1,061 72
Expenses,	913 34
Net earnings,	$148 38
Interest payments,	12 00
Net profit,	$136 38
Miscellaneous charges,	38 25
Surplus, June 30, 1909,	$98 13

General Balance Sheet.

Assets.

Property accounts,	$2,017 79
Notes and accounts receivable,	69 46
Supplies on hand,	40 50
Cash on hand,	39 33
Other assets,	45 00
Total debits,	$2,212 08

Liabilities.

Capital stock,	$1,500 31
Notes payable,	400 00
Accounts payable,	311 77
Total credits,	$2,212 08

Statistical Information.

Number of subscribers,	60
Number of instruments,	65
Number of operators,	3
Number of pay stations,	5
Number of subscribers on party lines,	56
Number of subscribers on single lines,	4
Overhead system: —	
Pole line, miles,	25
Iron wire, miles,	74
Copper wire, miles,	2

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ORLEANS TELEPHONE COMPANY.

Location of principal business office: Orleans, Mass.
Date when company began to give service: April, 1901.
Service is given by this company over its own lines in the town of Orleans.

General Officer.

Henry K. Cummings,	*Owner and Manager.*

Earnings and Expenses.

Gross earnings,	$125 50
Expenses,	4 50
Net earnings,	$121 00

General Balance Sheet.

Assets.

Property accounts,	$400 00
Supplies on hand,	45 00
Balance, deficit,	138 00
Total debits,	$583 00

Liabilities.

Capital stock,	$583 00
Total credits,	$583 00

Statistical Information.

Number of subscribers,	13
Number of instruments,	15
Number of subscribers on party lines,	13
Overhead system: —	
Pole line, miles,	6.5
Iron wire, miles,	6.5

E. M. PARTRIDGE.

Location of principal business office: Millers Falls, Mass.
Date when service first given: June 1, 1899.
Service is given by this concern over its own lines in the towns of Erving and Montague.

General Officer.

E. M. Partridge,	*Owner.*

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Earnings and Expenses.

Gross earnings: —	
Exchange service,	$898 37
Toll service,	3 90
Miscellaneous earnings,	203 13
Total gross earnings,	$1,105 40
Expenses,	815 82
Net earnings,	$289 58

General Balance Sheet.

Assets.

Property accounts,	$936 50
Notes and accounts receivable,	278 53
Supplies on hand,	35 00
Cash on hand,	136 66
Total debits,	$1,386 69

Liabilities.

Capital stock,	$936 50
Accounts payable,	65 44
Balance, surplus,	384 75
Total credits,	$1,386 69

Statistical Information.

Number of subscribers,	66
Number of instruments,	71
Number of pay stations,	4
Number of subscribers on party lines,	65
Number of subscribers on single lines,	1
Overhead system: —	
Pole line, miles,	½
Iron wire, miles.	15

RICHMOND TELEPHONE COMPANY.

Location of principal business office: Richmond, Mass.
Date of organization: Sept. 29, 1903.
Date of incorporation: Sept. 29, 1903.
State in which incorporated: Massachusetts.
Date of annual meeting: first Friday after July 1.
Date when company began to give service: 1903.
Service is given by this company over its own lines in the town of Richmond.

General Officers and Official Titles.

Frederick A. Clement,	*President and General Manager.*
Sydney M. Loveland,	*Vice-President.*
John R. Ayer,	*Clerk and Treasurer.*

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DIRECTORS AND RESIDENCES.

Frederick A. Clement,	Richmond, Mass.
Sydney M. Loveland,	Richmond, Mass.
Charles H. Nichols,	Richmond, Mass.
Amos G. Kiltz,	Richmond, Mass.
James H. Barnes,	Richmond, Mass.

CAPITAL.

Capital paid in,	$1,610 00
Number of stockholders,	20
Number of stockholders resident in Massachusetts,	17
Amount of stock held in Massachusetts (shares),	19

DEBTS.

Amount of notes outstanding,	$500 00

EARNINGS AND EXPENSES.

Gross earnings: —	
Exchange service,	$680 00
Toll service,	302 66
Total gross earnings,	$982 66
Expenses,	815 78
Net earnings,	$166 88
Interest payments,	25 00
Net profit,	$141 88
Surplus balance from last year,	1,098 86
Surplus, June 30, 1909,	$1,240 74

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$3,100 00
Notes and accounts receivable,	268 13
Supplies on hand,	209 37
Cash on hand,	53 24
Total debits,	$3,630 74

Liabilities.

Capital stock,	$1,610 00
Notes payable,	500 00
Accounts payable,	280 00
Balance, surplus,	1,240 74
Total credits,	$3,630 74

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STATISTICAL INFORMATION.

Number of subscribers,	47
Number of instruments,	52
Number of operators,	2
Number of pay stations,	2
Number of subscribers on party lines,	45
Number of subscribers on single lines,	2
Overhead system: —	
Pole line, miles,	17
Iron wire, miles,	53.5
Copper wire, miles,	2¾

NOTE. — "We have added no pole line this year, but have added 1½ miles of iron metallic circuit to our iron wire."

ROWLEY TELEPHONE COMPANY.

Location of principal business office: Rowley, Mass.
Date when company began to give service: Dec. 15, 1898.
Service is given by this company over its own lines in the towns of Ipswich and Rowley.

GENERAL OFFICERS.

Almon E. Carpenter and Albert E. Bailey, ... *Owners.*

CAPITAL.

Capital paid in,	$1,545 70

DEBTS.

Amount of notes outstanding,	$1,600 00

EARNINGS AND EXPENSES.

Gross earnings: —	
Exchange service,	$663 69
Toll service,	254 91
Total gross earnings,	$918 60
Expenses,	683 02
Net earnings,	$235 58
Interest payments,	96 00
Net profit,	$139 58
Dividends,	372 98
Deficit for the year,	$233 40

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$2,358 93
Notes and accounts receivable,	555 72
Supplies on hand,	99 25
Cash on hand,	43 19
Balance, deficit,	88 58
Total debits,	$3,145 67

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Liabilities.

Capital stock,	$1,545 67
Notes payable,	1,600 00
Total credits,	$3,145 67

STATISTICAL INFORMATION.

Number of subscribers,	47
Number of instruments,	47
Number of operators,	1
Number of pay stations,	4
Number of subscribers on party lines,	45
Number of subscribers on single lines,	2
Overhead system: —	
Pole line, miles,	10
Iron wire, miles,	26

STATE LINE CO-OPERATIVE TELEPHONE COMPANY NO. 7.

Location of principal business office: West Stockbridge, Mass.
Date of organization: Jan. 1, 1902.
Date when company began to give service: Jan. 1, 1902.
Service is given by this company over its own lines in the town of West Stockbridge, Mass., and in the State of New York.

GENERAL OFFICERS AND OFFICIAL TITLES.

John Howes,	*President.*
John P. Smith,	*Treasurer.*
Charles H. Baldwin,	*Secretary.*

CAPITAL.

Capital paid in,	$525 00
Number of stockholders,	15
Number of stockholders resident in Massachusetts,	6
Amount of stock held in Massachusetts,	$210 00

EARNINGS AND EXPENSES.

Gross earnings,	$85 18
Expenses,	58 83
Surplus,	$26 35

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$525 00
Cash on hand,	26 35
Total debits,	$551 35

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Liabilities.

Capital stock,	$525 00
Balance, surplus,	26 35
Total credits,	$551 35

STATISTICAL INFORMATION.

Number of subscribers,	15
Number of instruments,	15
Number of operators,	2
Number of pay stations,	2
Number of subscribers on party lines,	15
Overhead system: —	
Pole line, miles,	5
Iron wire, miles,	10

STATE LINE CO-OPERATIVE TELEPHONE COMPANY NO. 12.

Location of principal business office: State Line, Mass.
Date of organization: Dec. 6, 1902.
Date when company began to give service: March 1, 1903.
Service is given by this company over its own lines in the towns of Great Barrington and West Stockbridge.

GENERAL OFFICERS AND OFFICIAL TITLES.

Henry C. Kinne,	*President.*
John M. Vaber,	*Treasurer.*
Charles W. Roberts,	*Secretary.*

CAPITAL.

Capital paid in,	$875 00
Number of stockholders,	18
Number of stockholders resident in Massachusetts,	18

EARNINGS AND EXPENSES (SIX MONTHS, JULY 1 TO DEC. 31, 1908).

Gross earnings: —	
Exchange service,	$99 00
Toll service,	1 00
Total gross earnings,	$100 00
Expenses,	36 90
Net earnings,	$63 10
Surplus balance from last year,	92 50
Surplus, Dec. 31, 1908,	$155 60

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$1,033 28
Notes and accounts receivable,	4 75
Cash on hand,	10 50
Total debits,	$1,048 53

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Liabilities.

Capital stock,	$875 00
Accounts payable,	17 93
Balance, surplus,	155 60
Total credits,	$1,048 53

STATISTICAL INFORMATION.

Number of subscribers,	22
Number of instruments,	22
Number of operators,	1
Number of pay stations,	1
Number of subscribers on party lines,	22
Overhead system: —	
Pole line, miles,	13.5
Iron wire, miles,	27

NOTE. — This return covers the operation of the State Line Co-operative Telephone Company No. 12 from July 1, 1908, to Jan. 1, 1909, after which it was incorporated as Taghconic Telephone Company, which shows return for period from Jan. 1, 1909, to June 30, 1909.

STATE LINE TELEPHONE COMPANY.

Location of principal business office: West Stockbridge, Mass.
Date when company began to give service: April, 1902.
Service is given by this company over its own lines in the town of West Stockbridge.

GENERAL OFFICER.

W. H. Losty,	*Owner.*

CAPITAL.

Capital paid in,	$1,410 00

EARNINGS AND EXPENSES.

Gross earnings: —	
Exchange service,	$50 97
Toll service,	29 55
Miscellaneous earnings,	252 00
Total gross earnings,	$332 52
Expenses,	128 96
Surplus for the year,	$203 56
Surplus balance from last year,	121 50
	$325 06
Miscellaneous charges to surplus,	259 47
Surplus, June 30, 1909,	$65 59

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GENERAL BALANCE SHEET.

Assets.

Property accounts,	$1,410 00
Cash on hand,	65 59
Total debits,	$1,475 59

Liabilities.

Capital stock,	$1,410 00
Balance, surplus,	65 59
Total credits,	$1,475 59

STATISTICAL INFORMATION.

Number of subscribers,	18
Number of instruments,	18
Number of pay stations,	2
Number of subscribers on party lines,	18
Overhead system: —	
Pole lines, miles,	9
Iron wire, miles,	9

NOTE. — "The so-called State Line Telephone Company is not an incorporated body, but is the name given by the New England Telephone Company in their directory to the exchange at West Stockbridge and State Line owned by W. H. Losty. He has made this report as near right as possible."

TAGHCONIC TELEPHONE COMPANY.

Location of principal business office: State Line, Mass.
Date of organization: Dec. 31, 1907.
Date of incorporation: July 1, 1908.
State in which incorporated: Massachusetts.
Date of annual meeting: December 1.
Date when company began to give service: Jan. 1, 1909.
Service is given by this company over its own lines in the towns of Alford, Great Barrington and West Stockbridge.

GENERAL OFFICERS AND OFFICIAL TITLES.

Thomas L. Curren,	*President.*
Edward Arthur Easland,	*Secretary.*
Henry C. Kinne,	*Treasurer.*

DIRECTORS AND RESIDENCES.

George H. Cobb, Jr.,	Housatonic, Mass.
Thomas L. Curren,	West Stockbridge, Mass.
Henry C. Kinne,	West Stockbridge, Mass.

CAPITAL.

Capital paid in,	$1,000 00
Number of stockholders,	21
Number of stockholders resident in Massachusetts,	21

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EARNINGS AND EXPENSES (SIX MONTHS, JAN. 1 TO JULY 1, 1909).

Gross earnings: —	
Exchange service,	$123 00
Toll service,	1 00
Total gross earnings,	$124 00
Expenses,	51 87
Net earnings,	$72 13
Dividends,	30 00
Surplus for the year,	$42 13
Surplus balance from last year,	155 60
Surplus, June 30, 1909,	$197 73

GENERAL BALANCE SHEET.

Assets.

Property accounts,	$1,188 88
Notes and accounts receivable,	5 25
Cash on hand,	30 28
Total debits,	$1,224 41

Liabilities.

Capital stock,	$1,000 00
Accounts payable,	26 68
Balance, surplus,	197 73
Total credits,	$1,224 41

STATISTICAL INFORMATION.

Number of subscribers,	29
Number of instruments,	29
Number of operators,	1
Number of subscribers on party lines,	29
Overhead system: —	
Pole line, miles,	17
Iron wire, miles,	34

NOTE. — "Surplus balance from last year ($155.60) was the old State Line Telephone Company balance when we took it over, January 1. Please note that the foregoing report covers only six months' business (January 1 to June 30)."

WEST STOCKBRIDGE MUTUAL TELEPHONE COMPANY.

Location of principal business office: West Stockbridge, Mass.
Date of organization: Feb. 20, 1904.
Date of incorporation: March 7, 1904.
State in which incorporated: Massachusetts.
Date of annual meeting: second Monday in May.
Date when company began to give service: May 1, 1904.
Service is given by this company over its own lines in the town of West Stockbridge.

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General Officers and Official Titles.

Cyrus W. Sprague,	*President.*
William W. Bartlett,	*Secretary and Treasurer.*

Directors and Residences.

Vallas R. Truesdell,	West Stockbridge, Mass.
Cyrus W. Sprague,	West Stockbridge, Mass.
Charles R. Van Buskirk,	West Stockbridge, Mass.
Charles H. Fuarey,	West Stockbridge, Mass.
Walter W. Curtis,	West Stockbridge, Mass.

Capital.

Capital paid in,	$1,000 00
Number of stockholders,	12
Number of stockholders resident in Massachusetts,	11
Amount of stock held in Massachusetts,	$950 00

Earnings and Expenses.

Gross earnings: —	
Exchange service,	$379 94
Toll service,	10 50
Total gross earnings,	$390 44
Expenses,	314 31
Net earnings,	$76 13
Dividends,	130 00
Deficit for the year,	$53 87

General Balance Sheet.

Assets.

Property accounts,	$800 00
Notes and accounts receivable,	20 00
Supplies on hand,	10 00
Cash on hand,	106 20
Other assets,	150 00
Total debits,	$1,086 20

Liabilities.

Capital stock,	$1,000 00
Balance, surplus,	86 20
Total credits,	$1,086 20

Statistical Information.

Number of subscribers,	51
Number of instruments,	52
Number of operators,	2
Number of pay stations,	1
Number of subscribers on party lines,	51
Overhead system: —	
Pole line, miles,	5
Iron wire, miles,	10

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NOTE. — "In our showing of dividends declared during year, would say that one dividend and also quite an item of expense account were paid from earnings of year ending June 30, 1908. The company year and the State year not being the same, the two accounts overlap which would account for the apparent overdraw on our earnings."

TELEGRAPH COMPANIES.

ATLANTIC TELEGRAPH COMPANY OF MASSACHUSETTS.

Location of principal business office: 53 Central Street, Lowell, Mass.
Date of organization: Dec. 22, 1885.
Date of incorporation: Nov. 12, 1884.
State in which incorporated: Massachusetts.
Date of annual meeting: first Wednesday after June 23.
Date when company began to give service: Aug. 15, 1907.

GENERAL OFFICERS AND OFFICIAL TITLES.

George M. Harrigan,	*President.*
John J. Hogan,	*Treasurer.*
Nathan D. Pratt,	*Clerk.*

DIRECTORS AND RESIDENCES.

John J. Hogan,	Lowell, Mass.
George M. Harrigan,	Lowell, Mass.
Nathan D. Pratt,	Lowell, Mass.

CAPITAL.

Capital authorized by charter,	$5,000 00
Capital authorized by vote of company,	5,000 00
Capital paid in, 50 shares, par value $100,	5,000 00
Whole number of stockholders,	3
Number of stockholders resident in Massachusetts,	3

NOTE. — "Company gives no service; its lines are leased to the Telepost Company of Massachusetts."

COMMERCIAL CABLE COMPANY.

Location of principal business office: 112 State Street, Boston, Mass.
Date of organization: March 14, 1906.
Date of incorporation: March 14, 1906.
State in which incorporated: Massachusetts.
Date of annual meeting: February 15.
Date when company began to give service: April 1, 1906.
Service is given by this company over its own lines in Boston and Rockport.

GENERAL OFFICERS AND OFFICIAL TITLES.

Clarence H. Mackay,	*President.*
George G. Ward,	*Vice-President.*
Edward C. Platt,	*Treasurer and Assistant Clerk*
Frederick H. Putt,	*Clerk.*

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DIRECTORS AND RESIDENCES.

Clarence H. Mackay,	Roslyn, Long Island, N. Y.
George G. Ward,	New York, N. Y.
Frederick H. Putt,	Boston, Mass.

CAPITAL.

Capital authorized by charter,	$10,000 00
Capital authorized by vote of company,	10,000 00
Capital paid in, 100 shares; par value, $100,	10,000 00
Whole number of stockholders,	4
Number of stockholders resident in Massachusetts,	1
Amount of stock held in Massachusetts (shares),	1

CONDENSED STATEMENT OF OPERATING FOR THE YEAR.

	Items.	Totals.
Gross earnings from operation,		$44,923 18
General expense,	$2,228 92	
Operating expense,	35,160 15	
Current repair,	2,409 74	
Rented lines,	4,800 00	
Total expenses,		44,598 81
Net revenue from operation,		$324 37
Miscellaneous income: —		
Bank interest,		213 88
Surplus for the year ending June 30, 1909,		$538 25

EARNINGS.

Gross earnings from operation: —	
Cable service,	$44,923 18
Miscellaneous income: —	
Bank interest,	213 88
Total gross earnings and income,	$45,137 06

EXPENSES.

General expense: —		
Postage, printing and stationery,	$828 67	
Miscellaneous office expenses,	940 88	
Legal,	2 00	
Insurance,	196 59	
Taxes,	260 78	
Total general expense,		$2,228 92
Operating: —		
Superintendence,	$4,800 00	
Wages of operators,	24,479 81	
Wages of messengers,	1,202 95	
Rent, light and heat,	4,358 56	
Advertising and canvassing,	172 08	
Incidentals (uniforms),	146 75	
Total operating expense,		35,160 15
Amount carried forward,		$37,389 07

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	Items.	Totals.
Amount brought forward,		$37,389 07
Current repair: —		
Instruments and batteries (maintenance),	$2,328 74	
Incidental,	81 00	
Total current repairs,		2,409 74
Rented lines,		4,800 00
Total of all operating expenses,		$44,598 81

GENERAL BALANCE SHEET.

Assets.

Real estate at Rockport,	$4,200 75	
Electrical apparatus, equipment, office furniture, etc.,	6,000 00	
Total plant account,		$10,200 75
Current assets: —		
Cash on hand,	$9,201 53	
Notes and accounts receivable,	9,380 81	
Total current assets,		18,582 34
Total debits,		$28,783 09

Liabilities.

Capital stock, common,	$10,000 00
Current liabilities: —	
Bills payable,	17,256 76
Total liabilities,	$27,256 76
Balance, surplus,	1,526 33
Total credits,	$28,783 09

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$988 08
Gross earnings from operation,		44,923 18
Miscellaneous income (bank interest),		213 88
Operating expenses,	$44,598 81	
Balance, surplus,	1,526 33	
	$46,125 14	$46,125 14

COMMERCIAL UNION TELEGRAPH COMPANY OF MASSACHUSETTS.

Location of principal business office: 84 State Street, Boston, Mass.
Date of organization: Aug. 3, 1888.
Date of incorporation: Aug. 3, 1888.
State in which incorporated: Massachusetts.
Date of annual meeting: fourth Saturday in July.
Service is given by this company over its own lines in the following cities and towns: —

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Adams,	Lawrence,	North Adams,
Athol,	Lenox,	Orange,
Fitchburg,	Leominster,	Pittsfield,
Gardner,	Lowell,	Shelburne,
Greenfield,	Merrimac,	Williamstown.
Haverhill,	Newburyport,	

General Officers and Official Titles.

Charles A. Richardson,	*President.*
Charles P. Bruch,	*Vice-President.*
Theodore L. Cuyler, Jr.,	*Treasurer.*
I. R. Woodside,	*Clerk and Transfer Agent.*

Directors and Residences.

Charles A. Richardson,	Boston, Mass.
Edward J. Nally,	New York, N. Y.
Charles P. Bruch,	New York, N. Y.

Capital.

Capital authorized by charter,	$10,000 00
Capital authorized by vote of company,	10,000 00
Capital paid in, 100 shares; par value, $100,	10,000 00
Whole number of stockholders,	4
Number of stockholders resident in Massachusetts,	None.

Condensed Statement of Operating for the Year.

	Items.	Totals.
Gross earnings from operation,		$4,265 01
General expense,	$754 04	
Operating expense,	2,478 19	
Current repair,	1,124 88	
Total expenses,		4,357 11
Deficit for year ending June 30, 1909,		$92 10

Earnings.

Gross earnings from operation,	$4,265 01

Expenses.

General expense: —		
Salaries of officers,	$224 94	
Postage, printing and stationery,	63 71	
Miscellaneous office expenses,	17 18	
Damages,	2 66	
Rent of right of way,	168 53	
Rent of land and buildings,	264 26	
Insurance,	63	
Taxes,	12 13	
Total general expense,		$754 04
Amount carried forward,		$754 04

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	Items.	Totals.
Amount brought forward,		$754 04
Operating: —		
Wages of operators and others,	$2,035 10	
Wages of messengers,	370 70	
Rent, light and heat,	35 54	
Incidental,	36 85	
Total operating expense,		2,478 19
Current repair: —		
Repairs, overhead lines,	$1,119 55	
Repairs call circuits,	5 33	
Total current repairs,		1,124 88
Total of all operating expenses,		$4,357 11

GENERAL BALANCE SHEET.

Assets.

Plant required for operation,		$10,000 00
Current assets: —		
Cash on hand,	$2,706 57	
Notes and accounts receivable,	2,648 47	
Supplies on hand,	221 52	
Total current assets,		5,576 56
Balance, deficit,		733 84
Total debits,		$16,310 40

Liabilities.

Capital stock, common,		$10,000 00
Current liabilities: —		
Accounts payable,		6,310 40
Total credits,		$16,310 40

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Operating expenses,	$4,357 11	
Gross earnings from operation,		$4,265 01
Balance, deficit,		92 10
	$4,357 11	$4,357 11

THE MARTHAS VINEYARD TELEGRAPH COMPANY.

Location of principal business office: Woods Hole, Mass.
Date of organization: July 16, 1900.
Date of incorporation: July 20, 1900.
State in which incorporated: Massachusetts.
Date of annual meeting: January 18.
Date when company began to give service: Oct. 1, 1900.
Service is given by this company over its own lines in the following towns: —

Edgartown,	Gosnold,	Oak Bluffs,
Falmouth,	Nantucket,	Tisbury.

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GENERAL OFFICERS AND OFFICIAL TITLES.

Henry G. Haddon,	*President and General Manager.*
Joseph H. Wentworth,	*Clerk and Treasurer.*

DIRECTORS AND RESIDENCES.

Frederic E. Clary,	New Haven, Conn.
Arthur L. Edgecomb,	Portland, Me.
Henry G. Haddon,	Woods Hole, Mass.

CAPITAL.

Capital authorized by charter,	$10,000 00
Capital authorized by vote of company,	10,000 00
Capital paid in, 100 shares; par value, $100,	10,000 00
Whole number of stockholders,	2
Number of stockholders resident in Massachusetts,	None.

DEBTS.

Bonds or notes issued, viz: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
Feb., 1909,	Nov. 1909,	–	5	$2,000 00
March, 1909,	Dec., 1909,	–	5	2,000 00
Total amount of bonds and notes,				$4,000 00
Capital paid in,				10,000 00
Total liability for capital and loans,				$14,000 00

CONDENSED STATEMENT OF OPERATING FOR THE YEAR.

	Items.	Totals.
Gross earnings from operation,		$8,965 08
Less rebates and discounts,		38 64
Revenue from operation,		$8,926 44
General expense,	$2,124 77	
Operating expense,	2,704 45	
Current repair,	1,501 23	
Reconstruction,	5,124 40	
Total expenses,		11,454 85
Net deficit from operation,		$2,528 41
Miscellaneous income: —		
Interest on deposits,		22 58
Deficit for year ending June 30, 1909,		$2,505 83

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EARNINGS.

	Items.	Totals.
Gross earnings from operation: —		
Telegraph service,	$8,878 97	
Money transfers,	67 26	
Messenger service,	18 85	
		$8,965 08
Less rebates and discounts,		38 64
Total gross earnings from operation,		$8,926 44
Miscellaneous income: —		
Interest on deposits,		22 58
Total gross earnings and income,		$8,949 02

EXPENSES.

General expense: —		
Salaries of officers,	$1,375 00	
Postage, printing and stationery,	158 36	
Miscellaneous office expenses,	141 53	
Travelling,	121 00	
Storeroom expenses,	20 00	
Rent of right of way,	25 00	
Rent of land and buildings,	96 00	
Insurance,	3 75	
Taxes,	184 13	
Total general expense,		$2,124 77
Operating: —		
Wages of operators,	$3,066 23	
Wages of messengers,	269 59	
Telephone charges,	101 45	
Rent, light and heat,	222 57	
Advertising and canvassing,	100 00	
Incidental,	96 52	
	$3,856 36	
Less expense for handling Western Union ($781.71) and Postal Telegraph business ($370.20),	1,151 91	
Total operating expense,		$2,704 45
Current repair: —		
Repairs, overhead lines,	$470 98	
Repairs, submarine lines,	908 28	
Repairs, instruments and batteries,	106 71	
Incidental,	15 26	
Total current repairs,		1,501 23
Reconstruction items charged to expense: —		
Repairs, overhead lines,	$494 58	
Repairs, submarine lines,	4,629 82	
Total of reconstruction items charged to expense,		$5,124 40
Total of all operating expenses,		$11,454 85

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GENERAL BALANCE SHEET.

Assets.	Items.	Totals.
Overhead lines,	$4,000 00	
Submarine lines,	5,000 00	
Equipment,	668 50	
Office furniture and fixtures,	331 50	
Total plant account,		$10,000 00
Current assets: —		
Cash on hand,	$1,651 51	
Notes and accounts receivable,	1,972 93	
Total current assets,		3,624 44
Total assets,		$13,624 44
Balance, deficit,		1,872 01
Total debits,		$15,496 45
Liabilities.		
Capital stock, common,		$10,000 00
Current liabilities: —		
Loans and notes payable,	$4,000 00	
Audited vouchers and accounts,	1,241 24	
Salaries and wages unpaid,	247 21	
Rentals due and unpaid,	8 00	
Total current liabilities,		5,496 45
Total credits,		$15,496 45

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$1,133 82
Gross earnings from operation,		8,965 08
Miscellaneous income,		22 58
Operating expenses, including charges on account of reconstruction,	$11,454 85	
Rebates and discounts,	38 64	
Depreciation of plant,	500 00	
Balance, deficit,		1,872 01
	$11,993 49	$11,993 49

PROPERTY ACCOUNTS (ADDITIONS DURING THE YEAR).

Submarine lines,	$500 00

NEW ENGLAND TELEGRAPH COMPANY OF MASSACHUSETTS.

Location of principal business office: 84 State Street, Boston, Mass.
Date of organization: April 7, 1884.
Date of incorporation: April 7, 1884.
State in which incorporated: Massachusetts.
Date of annual meeting: second Tuesday in August.
Service is given by this company over its own lines in Attleborough, Brockton, Gloucester, Rockport and Salem.

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General Officers and Official Titles.

Charles C. Adams,	*President.*
Charles P. Bruch,	*Vice-President.*
Theodore L. Cuyler, Jr.,	*Treasurer.*
L. A. Boone,	*Clerk and Transfer Agent.*

Directors and Residences.

Charles C. Adams,	New York, N. Y.
Charles P. Bruch,	New York, N. Y.
Edward B. Pillsbury,	New York, N. Y.

Capital.

Capital authorized by charter,	$30,000 00
Capital authorized by vote of company,	30,000 00
Capital paid in, 300 shares; par value, $100,	30,000 00
Whole number of stockholders,	1
Number of stockholders resident in Massachusetts,	None.

Condensed Statement of Operating for the Year.

	Items.	Totals.
Gross earnings from operation,		$849 59
General expense,	$179 52	
Operating expense,	471 22	
Current repair,	227 27	
Total expenses,		878 01
Net deficit for year ending June 30, 1909,		$28 42

Earnings.

Gross earnings from operation,	$849 59

Expenses.

General expense: —		
Salaries of officers,	$83 99	
Postage, printing and stationery,	11 14	
Miscellaneous office expenses,	83	
Damages,	88	
Rent of right of way,	29 69	
Rent of land and buildings,	32 31	
Taxes,	20 68	
Total general expense,		$179 52
Operating: —		
Wages of operators and others,	$444 99	
Wages of messengers,	21 10	
Rent, light and heat,	3 46	
Advertising and canvassing	60	
Incidental,	1 07	
Total operating expenses,		471 22
Current repair: —		
Repairs, overhead and underground lines,		227 27
Total of all operating expenses,		$878 01

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GENERAL BALANCE SHEET.

Assets.	Items.	Totals.
Plant required for operation,		$30,000 00
Current assets: —		
Cash on hand,	$180 94	
Notes and accounts receivable,	447 52	
Supplies on hand,	2 59	
Total current assets,		631 05
Balance, deficit,		403 47
Total debits,		$31,034 52
Liabilities.		
Capital stock, common,		$30,000 00
Current liabilities: —		
Accounts payable,		1,034 52
Total credits,		$31,034 52

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Operating expenses,	$878 01	
Gross earnings from operation,		$849 59
Balance, deficit,		28 42
	$878 01	$878 01

OCEAN TELEGRAPH COMPANY.

Date of organization: June 28, 1869.
Date of incorporation: incorporated by chapter 129, Acts of 1869.
State in which incorporated: Massachusetts.
Date of annual meeting: whenever all stockholders shall in writing consent thereto.

GENERAL OFFICERS AND OFFICIAL TITLES.

Francis Peabody,	*President.*
Robert H. Gardiner,	*Treasurer.*
Alfred J. Mayo,	*Clerk.*

DIRECTORS AND RESIDENCES.

Francis Peabody,	Danvers, Mass.
Robert H. Gardiner,	Gardiner, Me.
Philip Dexter,	Boston, Mass.

CAPITAL.

Capital authorized by charter,	$100,000 00
Capital authorized by vote of company,	25,000 00
Capital paid in, 250 shares; par value, $100,	25,000 00
Whole number of stockholders,	4
Number of stockholders resident in Massachusetts,	3
Amount of stock held in Massachusetts (shares),	126

NOTE. — "The only property of the company is a parcel of land at Duxbury and a short piece of cable from thence to the sea."

This is not an operating company.

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POSTAL TELEGRAPH-CABLE COMPANY OF MASSACHUSETTS.

Location of principal business office: 84 State Street, Boston, Mass.
Date of organization: April 3, 1896.
Date of incorporation: April 3, 1896.
State in which incorporated: Massachusetts.
Date of annual meeting: fourth Saturday in July.
Service is given by this company over its own lines in the following cities and towns: —

Amherst,	Falmouth,	Northampton,
Attleborough,	Foxborough,	Springfield,
Brookline,	Framingham,	Sturbridge,
Cambridge,	Holyoke,	Taunton,
Charlton,	Lynn,	Westfield,
Chelsea,	Malden,	Woburn,
Chicopee,	Manchester,	Worcester.
Danvers,	Natick,	
Fall River,	New Bedford,	

General Officers and Official Titles.

Arthur L. Edgecomb,	*President.*
Edward B. Pillsbury,	*Vice-President.*
Theodore L. Cuyler, Jr.,	*Treasurer.*
Charles A. Richardson,	*Clerk and Transfer Agent.*

Directors and Residences.

Edward J. Nally,	New York, N. Y.
Charles P. Bruch,	New York, N. Y.
Arthur L. Edgecomb,	Boston, Mass.

Capital.

Capital authorized by charter,	$5,000 00
Capital authorized by vote of company,	5,000 00
Capital paid in, 50 shares; par value, $100,	5,000 00
Whole number of stockholders,	1
Number of stockholders resident in Massachusetts	None.

Condensed Statement of Operating for the Year.

	Items.	Totals.
Gross earnings from operation,		$24,874 17
General expense,	$4,024 25	
Operating expense,	18,016 57	
Current repair,	2,683 30	
Total expenses,		24,724 12
Surplus for year ending June 30, 1909,		$150 05

Earnings.

Gross earnings from operation,	$24,874 17

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Expenses.

	Items.	Totals.
General expense: —		
Salaries of officers,	$273 47	
Postage, printing and stationery,	430 92	
Miscellaneous office expenses,	207 70	
Damages,	22 48	
Legal,	73 17	
Rent of right of way,	111 74	
Rent of land and buildings,	2,733 57	
Insurance,	19 07	
Taxes,	152 13	
Total general expense,		$4,024 25
Operating: —		
Wages of operators and others,	$12,843 49	
Wages of messengers,	4,304 43	
Rent, light and heat,	483 41	
Advertising and canvassing,	1 55	
Incidental,	383 69	
Total operating expense,		18,016 57
Current repair: —		
Repairs overhead lines,	$2,105 82	
Repairs underground lines,	295 03	
Repairs call circuits,	44 32	
Incidental,	238 13	
Total current repairs,		2,683 30
Total of all operating expenses,		$24,724 12

General Balance Sheet.

Assets.

Plant required for operation,		$5,000 00
Current assets: —		
Cash on hand,	$1,416 70	
Notes and accounts receivable,	30,731 60	
Supplies on hand,	541 75	
Total current assets,		32,690 05
Total debits,		$37,690 05

Liabilities.

Capital stock, common,		$5,000 00
Current liabilities: —		
Accounts payable,		30,840 27
Balance, surplus,		1,849 78
Total credits,		$37,690 05

Profit and Loss Account.

	Dr.	Cr.
Gross earnings from operation,		$24,874 17
Operating expenses,	$24,724 12	
Balance, surplus,	150 05	
	$24,874 17	$24,874 17

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UNITED TELEGRAM COMPANY.

Location of principal business office: 26 Congress Street, Boston, Mass.
Date of organization: June, 1890.
Date of incorporation: June 16, 1890.
State in which incorporated: New Jersey.
Date of annual meeting: first Wednesday in November.
Date when company began to give service: June, 1890.
Service is given by this company over its own lines in the city of Boston.

General Officers and Official Titles.

Charles F. Parker,	*President.*
L. Wallace Sweetser,	*Secretary and Treasurer.*
G. L. Ellwood,	*Assistant Treasurer.*
Walter L. Sanborn,	*Vice-President.*

Directors and Residences.

Charles F. Parker,	Boston, Mass.
Stuart F. Martin,	Jamaica Plain, Mass.
L. Wallace Sweetser,	Wakefield, Mass.
Carl C. Lane,	Quincy, Mass.
Walter L. Sanborn,	Newton, Mass.
Walter E. Severance,	Dorchester, Mass.
Lewis C. Harris,	Newark, N. J.

Capital.

Capital authorized by charter,	$500,000 00
Capital authorized by vote of company,	50,000 00
Capital paid in, 10,000 shares; par value, $5,	50,000 00
Whole number of stockholders,	79
Number of stockholders resident in Massachusetts,	33
Amount of stock held in Massachusetts (shares),	6,269

Debts.

Bonds or notes issued, viz.: —

Date.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
July 1, 1890,	July 1, 1920,	Income bonds,	5	$200,000 00
Total amount of bonds and notes,				$200,000 00
Capital paid in,				50,000 00
Total liability for capital and loans,				$250,000 00

Condensed Statement of Operating for the Year.

	Items.	Totals.
Gross earnings from operation,		$46,083 26
General expense,	$12,440 69	
Operating expense,	9,811 05	
Amounts carried forward,	$22,251 74	$46,083 26

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	Items.	Totals.
Amounts brought forward,	$22,251 74	$46,083 26
Current repair,	3,600 00	
Rented lines,	15,500 04	
Total expenses,		41,351 78
Net revenue from operation,		$4,731 48
Miscellaneous income,		1,052 98
Surplus for year ending June 30, 1909,		$5,784 46

EARNINGS.

Gross earnings from operation: —		
Stocks and markets,		$46,083 26
Miscellaneous income,		1,052 98
Total gross earnings and income,		$47,136 24

EXPENSES.

General expense: —		
Salaries of officers,	$5,000 04	
Wages of clerks,	3,156 00	
Postage, printing and stationery,	1,506 91	
Miscellaneous office expenses,	200 00	
Storeroom expenses,	27 00	
Rent of land and buildings,	1,586 00	
Insurance,	60 00	
Taxes,	300 94	
General expense,	603 80	
Total general expense,		$12,440 69
Operating: —		
Superintendence,	$1,800 00	
Wages of operators,	5,002 32	
Wages of others,	1,983 96	
Wages of messengers,	12 00	
Telephone charges,	89 76	
Light and power,	569 09	
Incidental,	353 92	
Total operating expense,		9,811 05
Current repair: —		
Repairs overhead lines,	$420 00	
Repairs underground lines,	420 00	
Repairs, instruments and batteries,	2,760 00	
Total current repairs,		3,600 00
Rented lines,		15,500 04
Total of all operating expenses,		$41,351 78

GENERAL BALANCE SHEET.

Assets.

Equipment,	$9,195 00	
Tickers,	19,897 25	
Franchise,	80,000 00	
Ticker rights,	114,961 25	
Total plant account,		$224,053 50
Amount carried forward,		$224,053 50

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Amount brought forward;	$224,053 50
Current assets: —	
Cash on hand,	6,383 96
Sinking and other special funds: —	
Funds in escrow,	25,000 00
Total debits,	$255,437 46

Liabilities.

Capital stock, common,	$50,000 00
Bonded debt,	200,000 00
Current liabilities: —	
Dividends not called for,	537 50
Total liabilities,	$250,537 50
Balance, surplus,	4,899 96
Total credits,	$255,437 46

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$747 78
Gross earnings from operation,		46,083 26
Miscellaneous income,		1,052 98
Operating expenses,	$41,351 78	
Ticker rights,	1,632 28	
Balance, surplus,	4,899 96	
	$47,884 02	$47,884 02

PROPERTY ACCOUNT (DEDUCTIONS DURING THE YEAR).

Ticker rights,	$201,632 28

NOTE. — By vote of the directors, on Dec. 14, 1908, the par value of all shares of stock issued and outstanding was decreased from $25 per share to $5 per share

THE WESTERN UNION TELEGRAPH COMPANY.

Location of principal business office: 195 Broadway, New York, N. Y.
Date of organization: April 1, 1851.
Date of incorporation: April 1, 1851.
State in which incorporated: New York.
Date of annual meeting: second Wednesday in October.
Date when company began to give service: April, 1851.

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GENERAL OFFICERS AND OFFICIAL TITLES.

Robert C. Clowry,	*President and General Manager.*
George J. Gould,	*Vice-President.*
J. B. Van Every,	*Vice-President.*
Thomas F. Clark,	*Vice-President.*
G. W. E. Atkins,	*Vice-President.*
J. C. Willever,	*Secretary.*
F. J. Scherrer,	*Assistant Secretary.*
A. R. Brewer,	*Treasurer.*
Lewis Dresdner,	*Assistant Treasurer.*
J. B. Van Every,	*Auditor.*
John F. Dillon,	*General Counsel.*
G. H. Fearons,	*General Attorney.*
Rush Taggart,	*Solicitor.*
H. D. Estabrook,	*Solicitor.*
B. Brooks,	*General Superintendent, Eastern Division, New York, N.Y.*
C. F. Ames,	*District Superintendent, Boston, Mass.*

DIRECTORS.

Thomas T. Eckert, *Chairman.*	John Jacob Astor,
Robert C. Clowry,	Oliver Ames,
John T. Terry,	C. Sidney Shepard,
George J. Gould,	John B. Van Every,
Edwin Gould,	James Stillman,
Frank J. Gould,	Thomas F. Clark,
Jacob H. Schiff,	Howard Gould,
William L. Bull,	John J. Mitchell,
Joseph J. Slocum,	Henry A. Bishop,
Thomas H. Hubbard,	Harris C. Fahnestock,
James H. Hyde,	Henry Walters,
J. Pierpont Morgan,	G. W. E. Atkins,
Charles Lanier,	Paul Morton,
Chauncey M. Depew,	Robert M. Gallaway.
Henry M. Flagler,	

CAPITAL.

Capital authorized by charter,	$100,000,000 00
Capital authorized by vote of company,	125,000,000 00
Capital paid in, 998,171 shares; par value, $100,	99,817,100 00
Whole number of stockholders,	13,353

DEBTS.

Bonds or notes issued, viz.: —

DATE.	When due.	How secured.	Rate of Interest (Per Cent.).	Amount.
Sundry dates since 1900,	May 1, 1950,	Funding and real estate mortgage.	4½	$20,000,000 00
Sundry dates since 1887,	Jan. 1, 1938,	Collateral trust,	5	8,645,000 00
Sundry dates since 1906,	Nov. 1, 1936,	Stocks of other companies, etc.,	4	10,000,000 00
Total amount of bonds and notes,				$38,645,000 00
Capital paid in,				99,817,100 00
Total liability for capital and loans,				$138,462,100 00

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CONDENSED STATEMENT OF OPERATING FOR THE YEAR (WHOLE SYSTEM).

	Items.	Totals.
Gross earnings from operation,[1] including income from securities,		$30,541,072 55
General expense, operating expense and taxes,	$18,211,475 90	
Current repair and reconstruction,	3,124,093 11	
Rented lines,	1,542,520 24	
Equipment of offices and wires,	315,876 41	
Total expenses,		23,193,965 66
Total income above expense,		$7,347,106 89
Fixed charges: —		
Interest on funded debt,		1,732,250 00
Surplus of net income above fixed charges,		$5,614,856 89
Dividends declared,		2,739,435 50
Surplus for year ending June 30, 1909,		$2,875,421 39

EARNINGS (WHOLE SYSTEM).

Gross earnings from operation: —		
Traffic receipts,	$24,536,727 98	
Stocks and markets,	1,480,155 68	
Money transfer tolls,	226,086 64	
Leased wires,	2,552,682 82	
Total gross earnings from operation,		$28,795,653 12
Miscellaneous income,		1,745,419 43
Total gross earnings and income,		$30,541,072 55

EXPENSES (WHOLE SYSTEM).

Operating: —		
Wages of operators and salaries and wages of others,	$9,893,907 77	
Superintendence,	291,421 49	
Wages of messengers,	2,100,611 30	
Telephone charges and commissions,	97,901 25	
Rent, light and heat,	1,150,885 20	
Incidental and other expenses,	4,461,885 72	
Total operating expense,		$17,996,612 73
Current repair to lines,	$1,983,338 57	
Incidental and reconstruction,	1,140,754 54	
Cable repairs,	214,863 17	
Total current repairs,		3,338,956 28
Rents and royalties on commercial news,		1,542,520 24
Office repairs,	$132,284 01	
Instruments, etc.,	183,592 40	
		315,876 41
Total of all operating expenses,		$23,193,965 66

[1] Gross earnings in Massachusetts, $79,234.76.

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GENERAL BALANCE SHEET.

Assets.

Telegraph lines, stocks owned of leased telegraph companies that are merged in Western Union Company's system, franchises, patents, etc.,	$124,086,920 48
Stocks and bonds of leased telegraph companies received in exchange for collateral trust bonds,	8,645,000 00
Stocks of not leased telegraph companies, and other securities,	17,798,672 36
Real estate,	5,088,359 18
Supplies and material in supply departments,	1,243,471 90
Sundry accounts receivable, etc.,	2,295,537 13
Cash in treasury and in hands of agents (since remitted to treasury),	3,158,903 07
Total debits,	$162,316,864 12

Liabilities.

Capital stock,	$99,817,100 00
Funded debt,	38,645,000 00
Gold and Stock Telegraph Company for stocks of other companies held through lease of that company until 1981,	1,946,592 00
Sundry accounts payable, etc. (including dividend July 15, 1909),	3,040,710 26
Surplus of income prior to Oct. 1, 1881, appropriated for construction and acquisition of telegraph lines and property (in excess of the $15,526,590 capital stock distributed in 1881 on account of such appropriations of income during the fifteen years preceding),	1,598,184 03
Surplus of income subsequent to Oct. 1, 1881 ($16,639,517.92), plus the proportion of surplus of income prior to Oct. 1, 1881 ($629,759.91), that was not appropriated as above,	17,269,277 83
Total credits,	$162,316,864 12

PROFIT AND LOSS ACCOUNT.

	Dr.	Cr.
Balance from previous year,		$14,393,856 44
Revenues,		30,541,072 55
Expenses,	$23,193,965 66	
Interest on bonds,	1,732,250 00	
Appropriated for dividends,	2,739,435 50	
Balance, surplus,	17,269,277 83	
	$44,934,928 99	$44,934,928 99

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